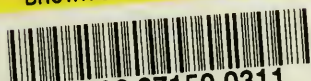


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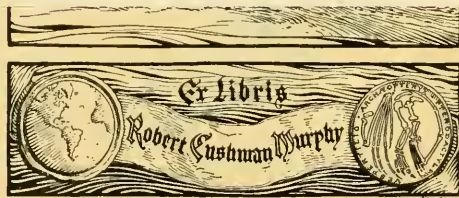


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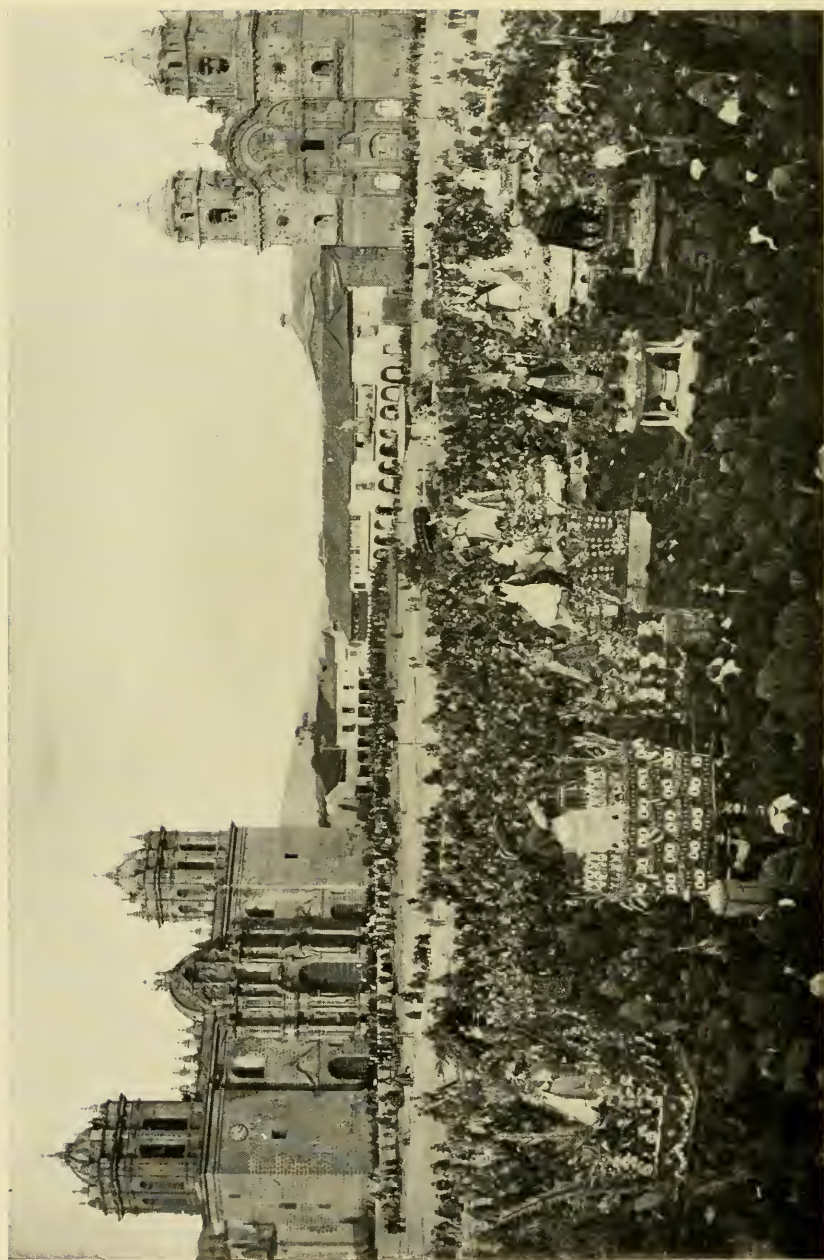
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ALONG THE ANDES AND
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PROCESSION OF CORPUS CHRISTI IN THE PLAZA DE ARMAS, CUZCO. THE CHURCH AT THE LEFT IS THE CATHEDRAL.

FOLLOWING THE CONQUISTADORES

ALONG THE ANDES AND DOWN THE AMAZON

BY

H. J. MOZANS, A.M., PH.D.

AUTHOR OF "UP THE ORINOCO AND DOWN THE MAGDALENA"

WITH AN INTRODUCTION BY
COLONEL THEODORE ROOSEVELT



ILLUSTRATED

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TO
MY FRIEND
OF MANY YEARS
CHARLES M. SCHWAB
IN TOKEN OF
ADMIRATION AND AFFECTION

C. E. J.

"The exploits of the conquistadores of America were so stupendous, so fabulous, that no epic could do them justice, no narrative, however faithful, complete or masterly, could portray the reality. It is necessary to have been born and to have lived a long time in America and to know the Andes, the deserts, the forests, the rivers, the morasses, the coasts, the climates, of this part of the world, where everything is colossal; to compare the formidable obstacles, which still exist, with the far greater ones overcome by the Spaniards, in order to form an adequate idea of the prodigious daring, heroism and inflexibility of the conquistadores. All the impetuosity of the conqueror of the Moor, the indomitable tenacity of the Arragonese, the patient and silent constancy of the Castilian, who fought and died with a jest on his lips, the vehement curiosity and passion of the Andalusian, the cold and calculating perseverance of the Catalanian and the Basque, were exhibited in that struggle of a handful of Titans engaged in the conquest of a world of exuberant heat and life, force and majesty, riches and population, novelty and marvels. . . . In that epoch all was great, the good and the bad, iniquity and virtue, force and resistance, but the greatness of force was in man while that of resistance was in nature." José M. Samper, *Ensayo sobre las Revoluciones*, Cap. I.

INTRODUCTION

This book is, in a sense, the sequel of a book by the same author entitled *Following the Conquistadores up the Orinoco and down the Magdalena*.

Shortly after returning from this trip along the Orinoco and the Magdalena, Doctor Mozans called upon me, and we soon grew to be great friends. He is a devoted student of Dante, and I am one of the innumerable laymen who greatly admire Dante without having even the slightest pretensions to having studied him. I think that the intimacy of Doctor Mozans and myself was largely due to his finding out the interest I had taken in translating, so to speak, Dante's political terminology into that of the present day,—for Dante wrote with a lack of self-consciousness which we could not nowadays achieve, and so, in perfect good faith, and I may add with entire propriety, illustrated the fundamental vices and virtues by placing in hell and purgatory the local Italian political leaders of the thirteenth century side by side with the mightiest figures of the elder world, the world of Greece and Rome at their zenith. I had remarked to Doctor Mozans that this attitude, which added so enormously to the power of Dante, was one which we were now too self-conscious to follow; that, whereas it seemed perfectly natural to Dante to typify the same fierce and stubborn soul qualities both in the person of Farinata and in the person of Capanius, and to appeal to a Florentine faction fight as he did to the memory of the stupendous wars which made Rome imperial, it would now be quite impossible for us to avoid feeling, and therefore conveying, a sense of incongruity if we coupled a feast of Lucullus with some equally tasteless banquet by a member of the Four Hundred, or spoke in the same breath of Clodio and Isaiah Rynders or John Morrissey.

The acquaintance thus begun went on, and when I was about to leave the White House, Doctor Mozans proposed that I should make a South American trip with him, instead of my proposed trip to Africa. I should have been exceedingly pleased to have done both; but as my trip was to be taken primarily as a naturalist in-

INTRODUCTION

terested in the great game, I thought it best not to change my point of destination—and the comments Doctor Mozans makes upon the rarity and shyness of all large animals in the tropical forests of South America show that I was wise. But Doctor Mozans would have been an ideal traveling companion. His trip was one of absorbing interest, and it is told so delightfully that I do not now recall any similar book dealing with South America so well worth reading.

Doctor Mozans has every qualification for making just such a journey as he made, and then for writing about it. He is an extraordinarily hardy man, this gentle, quiet traveler. He has that sweetness of nature which inspires in others the same good feeling he himself evinces towards them; he loves rivers and forests, mountains and plains, and broad highways and dim wood trails; and he has a wide and intimate acquaintance with science, with history, and, above all, with literature. This volume supplements his previous volume, giving his journey across the Andes from the West Coast and his voyage down the Amazon; so that he has seen all that is most characteristic, and to the traveler most attractive, in tropical America, from the barren Andean plateaus, filled with the ruins of a dead civilization almost as ancient and interesting as that of Egypt or Mesopotamia, to the hot, steamy, water-soaked forests which cover the middle and the northeast of the Southern continent. We are fortunate in having a man like Doctor Mozans traveling in the lands to the south of us. He speaks with just admiration of the great work done by Secretary Root, when, in an American warship, he circled the Southern continent, representing our country as an ambassador whose work was of highest moment. But Doctor Mozans himself also really acted as such an ambassador; and his sympathy with, and appreciation of, the people whom he met—a sympathy and appreciation evident in page after page of his book—earned for him thoughtful and unwearied kindness in return, and admirably fitted him, while on his journey, to interpret our nation to those among whom he traveled, and now admirably fit him to interpret them in return to us.

Taste in books is highly individual, and long experience has shown me that I sometimes greatly like books for which most of my friends care not at all; but it does seem to me that it would be difficult for any man to rise from reading Doctor Mozan's books without feeling, not only that he has passed a delightful time, but

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also that he has profited greatly by the vivid picture presented to him of our neighbors to the south and their marvelous country. As Americans, his studies of these neighbors of ours are of peculiar value to us. Moreover, Doctor Mozans' literary tastes and in particular his great fondness for the poetry of many different tongues stand him in good stead. It is pleasant to travel in company with one who knows books as well as men and manners, and who yet cares also for all that is beautiful and terrible and grand in Nature. German, Italian, Spanish, English—there is hardly a favorite poet, writing in any language, whose words do not naturally rise to Doctor Mozans' mind as he comes to some particular scene which he thinks that some particular passage in some of his beloved authors aptly illustrates; and his quotations from the South American poets are not only apt in themselves, but illuminative to those among us who do not realize how very far South American civilization has gone along certain lines where our own progress has been by no means well marked. In particular, the translations that the author gives us of some of the simple Indian ballads make us wish that we could have these ballads all set forth in popular form; while Doctor Mozans' humorous appreciation of the excesses into which the poetic habit sometimes misleads his South American friends completely reassures us as to his coolness of judgment.

We are far from realizing all that of recent years has been accomplished in South America. We are now fairly well acquainted with the great material advances that have been made in Chile and the Argentine, with the growth along cosmopolitan lines of cities like Buenos Ayres and Rio de Janiero. But Doctor Mozans quite incidentally makes us understand the charm of the older and more typical Spanish-American cities, and brings to the attention of our people the extraordinary quantity of serious work in scholarship which has been achieved in the universities of these cities during the centuries immediately past; and he also shows how the forces of modern life are now vivifying this charming social, ancient life, which has so long been held back and perverted into wrong channels. The book ought to make our people understand and appreciate far better than at present the South American nations which he visited, and the high and fine qualities of whose peoples he sketches so vividly.

Nor is it only in describing the scholars and gentlefolk of these countries and their achievements in the past, and the courteous,

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kindly-natured Indian or semi-Indian peasantry, that Doctor Mozans tells us much that we ought to know. He also brings vividly to our minds facts about the natural scenery which are new to most of us. I confess that, as an ardent admirer of the Grand Canyon, it was rather a shock to me to have Doctor Mozans speak of it as inferior to the extraordinary gorge of the Marañon, the headwaters of the Amazon. It does not seem to me that anything on this earth can be grander than the Grand Canyon! But at any rate I earnestly hope that the railroad Doctor Mozans advocates will speedily be built, and the wonderful gorge he describes be opened to the vision of less hardy travelers than he is.

In closing, I can only repeat again that this is a delightful book from every standpoint. It is an especially delightful book for Americans because throughout it Doctor Mozans shows that he is so thoroughly good an American, so imbued with what is best in our National spirit, and with the thoughts and aspirations of our greatest statesmen and writers, and indeed of all who have expressed the soul of our people. He is peculiarly fit to interpret for us our neighbors to the south; and he describes them with a sympathy, insight and understanding granted to but few. Moreover, his feat was a really noteworthy feat, and it is told with vividness, combined with modesty, and an evident entire truthfulness; and we should be equally attentive to what he sets forth as our accomplishments—for example, in digging the Isthmian Canal and bringing order to Cuba—and to his allusions to our shortcomings, as shown by our ignorance and lack of appreciation of the great continent south of us, and our failure to try to bring it and its people into closer relations with us.

Theodore Roosevelt

Sagamore Hill,
April 20, 1911.

FOREWORD

In his *Discours Préliminaire* to the French translation of Paz Soldan's *Geografia del Peru*, M. Arsène Moqueron declares that in France little was known of Peruvian history, except what was contained in Marmontel's ponderous romance, *Les Incas*. Manuel Fuentes, in his charming work on Lima, makes a similar observation regarding the ignorance prevailing in Europe—and, he might have added, in the United States as well—regarding the manners and customs of the people of Peru. What these two writers affirmed of Peru, might have been asserted, with even greater truth, of Bolivia and Ecuador.

Nearly half a century has elapsed since Fuentes and Moqueron wrote, and, although our knowledge of the coast cities and capitals of these countries has been considerably increased since their time, their declarations still remain substantially true for the interior of the countries mentioned and particularly for that portion of them which lies to the east of the Andes. Indeed, one can truthfully say that certain sections of this immense territory, extending from the llanos of Colombia to the Gran Chaco in Paraguay, are less known to-day than they were two and even three centuries ago. This seems almost incredible, but a reference to the numerous works of the early missionaries, some of which have been but recently published, while others are still in manuscript, would amply verify this seemingly paradoxical assertion.

When one reads these old chronicles, which have so long lain forgotten in the archives of Spain and South America, one is forced to recognize the fact that many chapters of the history of our sister continent must be entirely rewritten, if we would have an adequate presentation of numerous important events that have, until these later years, been entirely unknown. One can also see in these old records a vast amount of raw material for possible poems and romances, as well as histories, which are merely awaiting the advent of future Longfellows, Chateaubriands, Parkmans, Prescotts, Irvings and Quintanas to evolve from it imperishable creations of literary art.

And when one crosses the lofty mountains and traverses the

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impenetrable forests that witnessed the marvelous exploits of the conquistadores, and recalls in detail the amazing deeds of prowess of the Pizarros, the Orellanas, the Quesadas, the Bellacazars, which have cast such a glamour over the Spanish name and nation, one seems to be carried back to the days of chivalry, or to the times when Iberian valor—*quidlibet audendi potestas*—was engaged in its long and heroic struggle with the infidel Moor.

Nor is this all. When one studies on the ground what has been accomplished for civilization, by the descendants of the conquistadores; when one contemplates their universities and other institutions of learning; when one scans the long list of names of those who have achieved distinction in science, art, literature, economics, jurisprudence; when one notes the progress that is now being made in commerce and in the development of the inexhaustible resources of forest, field and mine; when one watches shipload after shipload of immigrants eagerly hastening to the land of promise under the Southern Cross, one can realize, as never before, that South America, in spite of countless retarding influences, has been steadily working out its destiny and progressing towards a great and brilliant future. But, what above all else impresses the traveler, is what Mr. Root, on the occasion of his visit to the southern continent, happily designated as "the laboratory of life, where English, German, Italian, French, and Spanish and American were all being welded together to make a new type."

In this great laboratory we can see the same process at work that for the last century and more has been operating with such splendid results in the United States. Here, notwithstanding the constant influx of millions of immigrants of divers nationalities, all have conformed to the Anglo-Saxon mold and the outcome is the Anglo-American type, with all the sterling characteristics of its component elements. In our sister continent, it is the Latin mold into which the divers elements are compounded and from which issues the Neo-Latin variety of man known as the Spanish-American, as distinct and as characteristic as the Anglo-American of the United States.

That the immigrants from Spain, France and Italy should conform to this Neo-Latin mold was to be expected, but one would have credited the English, the Irish, the Slavs, the Germans with greater powers of resistance. All, however, without exception, are, through life's mysterious processes, being rapidly amalga-

FOREWORD

mated, and absorbed by the dominant type. This is specially remarkable in southern Brazil, "where the German population is so dense that Pan-German apostles have often claimed them as free colonies of *Deutschthum*, but the colonists adapt themselves to local life and soon speak the language of the country."

These facts show the fatuity of those who regard the Iberian race as degenerate or moribund. The truth is that the Spaniards and their nearest of kin, the Portuguese, notwithstanding their being so long "the apparent sport of malicious and inconstant fortune," contain within themselves the promise and the potency of a renaissance that will soon surprise the world. Never before in their long and marvelous history have they been more progressive or more powerful. Never were their sonorous tongues so widely spoken, or by a larger number of people than at present. Never did they rank higher or approach nearer towards universal use among the great languages of the world. Omitting the peoples and tongues of China, and of Russia which is more than half Asiatic, the Spanish race and tongue to-day are surpassed in point of numbers, distribution and future promise only by the Anglo-Saxon.

To the great Iberian race belongs the whole of the western hemisphere from the northern frontier of Mexico to the straits of Magellan. This, with its possessions in Europe, Asia, and Africa, constitutes more than one-fourth of the earth's surface. No other race since the fall of Rome, except the Anglo-Saxon, has achieved more in conquest and colonization or has contributed more to the advancement of civilization and culture. A composite race, like the Anglo-Saxon, and possessing some of the strongest elements of the English people, it is a race of inexhaustible vitality and possesses a boundless field for future expansion and development. Great as has been its past and mighty and manifold as have been its influence and achievements in every sphere of activity, its future will be still greater. Indeed, the Neo-Latin race, now advancing with such marvelous strides, bids fair soon to become a close rival of the noble Anglo-American race in the great republic of the north.

In the following pages, as in my work, *Following the Conquistadores up the Orinoco and down the Magdalena*, I have endeavored not only to give a picture of the country and the people as I saw them, but also to summarize their hopes, aspirations and prospects.

FOREWORD

I have also briefly discussed certain topics that present themselves to every traveler in the land of the Incas, especially when he contemplates the wonderful monuments which are scattered over the length and breadth of this vast territory—monuments which have elicited the admiration of every beholder since the days of the conquest. In doing this, I have drawn freely on the works of the early chroniclers, many of whom are still practically unknown to English readers, and have given, when the narrative seemed to require it, the conclusions of the latest and most competent investigators regarding the subjects under discussion.

And that the reader, if so minded, may be able to control my statements, or that he may know where to find further and authentic information on any of the various topics treated, I have, in footnotes and in the bibliography at the end of the volume, given the sources of my information and the authorities which, in controverted questions, I have considered the most trustworthy. In traversing a field so full of interesting subjects, and so rich in literary and other monuments, as is the once famous empire of the Children of the Sun, this method of procedure seemed advisable, if not necessary, at least in the interest of that rapidly growing class of readers, who desire full and accurate information respecting what is historically, if not in other respects, the most fascinating part of South America.

I would be ungrateful if I failed to thank publicly those who contributed so materially towards making my journey to the southern continent so enjoyable and so profitable. Chief among these, whose uniform kindness and courtesy I can never forget, were His Excellency, Dr. José Pardo, President of Peru; his accomplished brother, Don Juan Pardo, president of the Peruvian Chamber of Deputies; F. A. Pezet, Peruvian minister to Central America; the prefects and governors, who gave me such generous hospitality on my way across the Andes from the Pacific to the Amazon; Señores Ballivian and Hope, the amiable ministers of the Bolivian Cabinet; and Mr. W. Eyre, manager of the Peruvian Corporation, and Mr. E. G. Townsend, general superintendent of the Railways of the South of Peru. To these and to many others in Ecuador, Bolivia, Peru and Brazil, to whom I am under lasting obligations, I hereby tender the fullest acknowledgments of a grateful heart.

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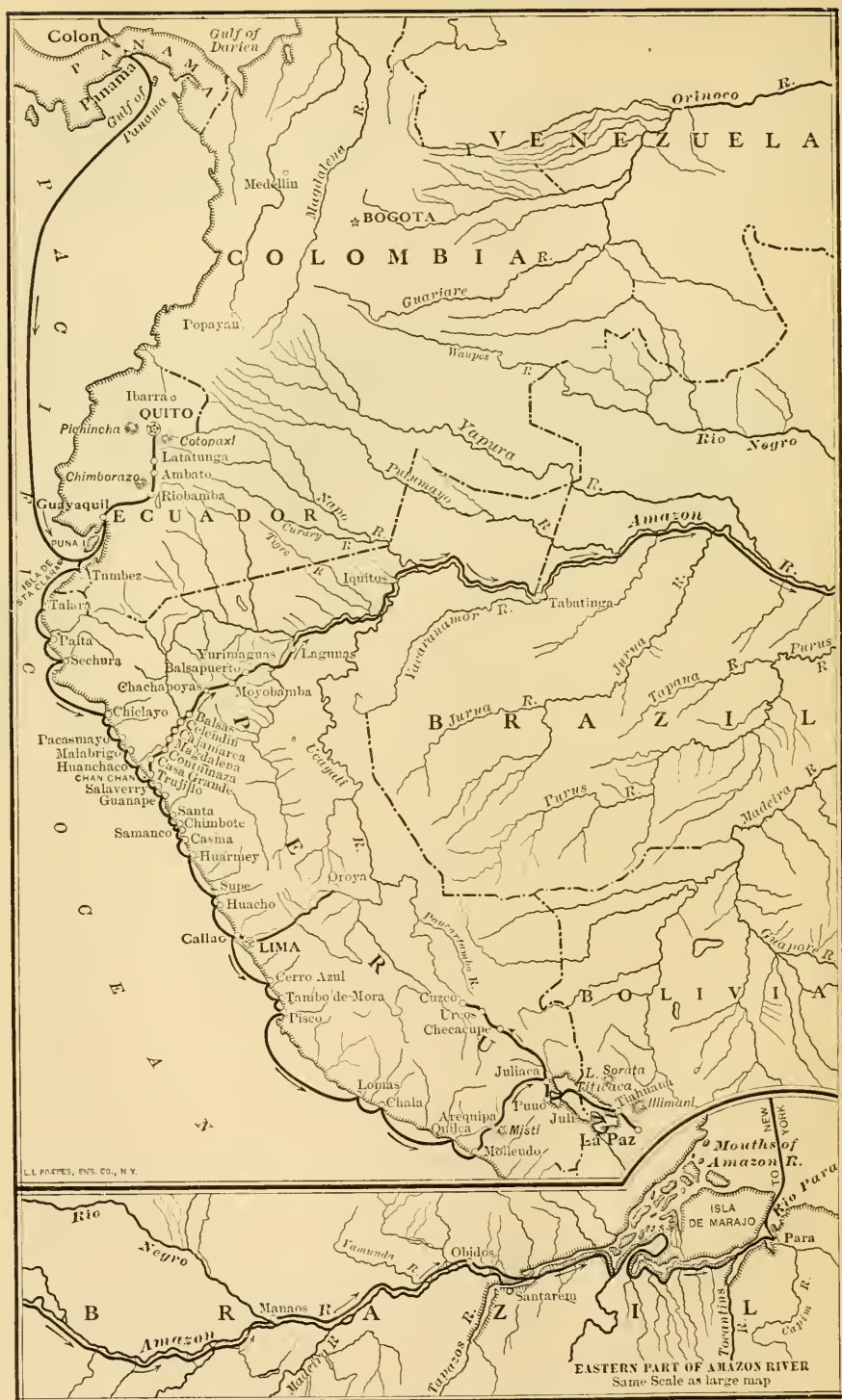
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NOTE.—For some of the photographs used in illustrating this book I am indebted to the courtesy of my good friends, Mr. Lee McLung and Professor Isaiah Bowman. For others I am under obligations to Mrs. T. H. Spottiswoode, a young Englishwoman, who, with her husband, crossed the continent of South America by way of the Amazon and the Cajamarca route, and who succeeded in taking a large number of most valuable photographs of the places visited.



ROUTE FOLLOWED BY THE AUTHOR.

ALONG THE ANDES AND DOWN THE AMAZON

CHAPTER I

PLEASANT DAYS IN PANAMA

To the traveler and the historian no part of the New World is more replete with interest than the narrow strip of land which is laved by the waters of the Caribbean on the north and those of the Gulf of Panama on the south. No part is richer in historical associations, none has witnessed more heroic deeds of valor or more brilliant achievements, and none has contributed more fascinating pages to the annals of discovery and daring emprise.

The great Admiral of the Ocean Sea beat up and down its coast in his futile search for that mythical strait which was to afford him a short route to the Land of Spices. Even some of the names which the Isthmus still bears are reminders of his visit to this part of the world. Rodrigo de Bastidas, "Spain's noblest and best conquistador," was also here on a similar quest as were likewise, there is reason to believe, Alonzo de Ojeda, Amerigo Vespucci and Juan de la Cosa. They, too, were looking for the fabled passageway to India.

A few years later they were followed by Vasco Nuñez de Balboa, the illustrious discoverer of the great South Sea. Starting from Santa Maria de la Antigua, on the Gulf of Darien, he skirted the coast until he reached a point near Cape Tiburon, whence he pushed his way through the almost impervious forests to what is now

known as the Gulf of San Miguel. By a most happy chance he crossed the Isthmus at its narrowest, albeit not at its lowest part, and along the line on which, centuries later, was located what is known as the Caledonian Canal route. In Balboa's valiant band was Francisco Pizarro, who, in place of his ill-fated chief, was destined to be one of the great makers of history in the discovery and conquest of the land of the Incas.

Contrary to what is frequently stated, the route chosen by Balboa on his way to the South Sea was nearly a hundred miles distant from the Panama railroad. And the eminence from which he got his first view of the Pacific was not, as some writers assert, El Cerro Gigante, midway between Colon and Panama, but some elevated point in the Cordillera, probably the great massif of Pirri, northeast of San Miguel Bay.

The first port of note, on the Caribbean side of the Isthmus, was Nombre de Dios, which, because of the immense treasures that were at times collected there in transit to Spain, was called the Treasure House of the World. This place, on account of its insalubrity, was subsequently abandoned. To-day not a trace of it is visible. Porto Bello replaced it as a port and until the foundation of Aspinwall—now known as Colon—it was one of the most important ports on the Caribbean, for here was garnered all the gold, silver and pearls that had been brought from the mines of Peru and the islands of the South Sea.

For a long time there was a paved road between Porto Bello and Panama and during the halcyon days of Spanish rule, the value of the traffic that passed over it was immense. Some times, however, a portion of the merchandise was shipped a part of the way by the Chagres River. These were the routes taken by Drake and Morgan during their memorable raids. They were, in fact, the only routes available for freight and passengers until the completion of the Panama railroad in 1855.

PLEASANT DAYS IN PANAMA

It was during the *veranito*—the short summer that follows St. John's day, which occurs the 24th of June,—that I first set foot on the soil of Colon. The sun was approaching the zenith of a cloudless sky; the temperature was high, but far from being as oppressive as I had been led to expect. Indeed, in the shade, thanks to the grateful breeze from the sea, it was quite comfortable. The streets of the city were crowded near the wharf with people, mostly negroes and Chinamen, but, while there was considerable noise and bustle, there was no disorder. I lost no time in having my luggage transferred to the leading hotel, where I found excellent quarters and whence I soon sallied forth to study the city and its environs.

Colon is quite a modern town, counting barely three-score years since its foundation. It is the Caribbean terminus of the Panama railroad, and is by far the most important part of the young republic. Steamers call there from all parts of the world, and the volume of cargo discharged and taken on is astonishing. If the amount of traffic is now so great what will it be, one instinctively asks, when the canal is completed and opened to the commerce of all nations?

The houses of Colon are very unlike those of other Spanish-American towns. They are mostly frame and galvanized-iron structures, and remind one of those everywhere visible in the Trans-Missouri region. Many of them are the merest shacks, while others, especially those occupied by the officers of the Panama Canal, are models of comfort and good taste. The doors and windows and even the porches of these are provided with metal screens so as to prevent the ingress of mosquitoes and other insects. In such houses, particularly in those near the seashore, one can enjoy the balmy, equable temperature of the tropics and, at the same time, be free from the annoyances inevitable in dwellings that are not similarly protected.

The city stands on the low, flat island of Manzanillo, which is about a mile long and three-quarters of a mile broad. So low indeed, is it—"nowhere more than four feet above mean sea level"—that sewage is almost impossible. This, in one of the rainiest spots of the world, where good drainage is so necessary, and in an atmosphere of extraordinary humidity, is a serious drawback. It certainly justifies the opinion that this important port should be transferred to a higher level, or that the city itself should be elevated by earth brought down from the neighboring highland.

Strange, however, as it may seem, there are some who prefer Colon as a place of residence to Panama. It is somewhat cooler and enjoys almost constantly the inestimable advantage of the trade-winds.

Nor is it entirely devoid of beauty. Its rows of lofty and graceful palm trees, especially those in the more aristocratic quarters, are particularly attractive and give to the place a distinction it would not otherwise possess. Its setting, too, enhances the beauty of the place. The swelling hills and the Quebrancha Mountains in the background and the jutting headlands at each side of the city make it, as seen from the deck of an incoming steamer, a picture of rare loveliness.

Since the advent of the American health officers a marvelous improvement has been noted in the sanitary condition of Colon, as well as elsewhere along the route of the canal. Before their arrival, it fully deserved its reputation of being one of the worst plague spots in the world. For generations yellow fever had been practically endemic there, while malarial and pernicious fevers were prevalent in their most malignant forms. Considering the low, swampy island on which the city is built, the squalid huts, reeking with filth, of many of its inhabitants, the unsanitary conditions that so long prevailed here, the humid, pestilential atmosphere which ever enveloped it, it is small wonder that the mortality of

the place was so great as has been reported, and that the voyager studiously avoided this port as he would the plague itself.

After two days spent in studying conditions in Colon, we—a Boston press agent and I—started out to take a look at the work that is being done on the great canal. This every true American, who visits the Isthmus, deems a duty and every intelligent one finds a genuine pleasure. Aside from its being the most stupendous feat of engineering ever attempted, it is a work in which all Americans have a justifiable patriotic pride, and one to whose successful completion at an early day they look forward with the deepest interest.

I shall never forget the surprise of some fellow-travelers when they learned the amount they had to pay for their tickets and baggage to Panama. “Exorbitant,” said one; “Extortion,” exclaimed another; “No wonder,” declared a third, “that the company has been able to declare such handsome dividends.” The prices reminded me of the local rates one had to pay on certain of our Rocky Mountain roads a quarter of a century ago. But high as they were, they were much lower than the prices demanded two decades ago. Then a ticket from Colon to Panama, a distance of forty-seven miles, cost twenty-five dollars in gold and personal baggage was charged for at the rate of thirteen cents a pound. And time was when the freight rate for these forty-seven miles was equal to one-half the amount paid for it from New York to Valparaiso, a distance of nearly five thousand miles.

Immediately after leaving Colon the train crosses an embankment, when the passenger finds himself on *Tierra Firme*—the Firm Land of the early Spanish writers. To the right is an extensive mangrove swamp, the despair of the early engineers of the Panama railroad. The difficulties they had to encounter here in their preliminary survey, as well as in the subsequent work of

construction, were enormous and taxed their ingenuity and grit to the utmost. It is doubtful whether any stretch of railroad in the world has presented greater obstacles and been attended with greater suffering and loss of life than have the six miles in the pestilential swamp between Colon and Gatun.

The same difficulties and dangers were encountered by the French in digging the canal through this miasmatic, death-dealing morass. The countless graves in the adjoining cemetery of Mount Hope testify to the frightful mortality caused by plagues which at times seemed to render the continuation of the work impossible. Piercing the Alps and tunneling the crests of the Rocky Mountain ranges were easy in comparison with track-laying and canal-digging on the Isthmus of Panama before the adoption of the hygienic measures now in force in the Canal Zone.

For a greater part of the way up the northern slope of the Isthmus the Chagres River¹ is almost continually in view. During the dry season it is a shallow, tranquil stream, from one to two hundred feet wide, but, during the rainy period, it is a tumultuous river that often overleaps its banks and carries everything before it. It is said that in 1878 the floods were so high that the railroad was in places covered with eighteen feet of water. This fact will give an idea of some of the problems confronting our engineers in devising means for controlling this terrible water-course during the season of rain and floods.

On both sides of the road for a greater part of the distance to Panama the vegetation is as profuse and as dense as can be seen anywhere in the tropics. Palms, bamboos, cedars, mahoganies, cottonwoods, ferns and heliconias, all matted together by vines and creepers of every kind, are most conspicuous. At places the jungle almost touches the rails, and so rapid is the growth of herb and tree that

¹ Formerly called by the Spaniards *Rio Lagartos*, on account of the large number of crocodiles found in it.

the road would be covered with a compact mass of vegetation in less than six months unless measures were adopted to keep it cleared.

Jorge Juan and Antonio de Ulloa, writing of the scenery along this route, declare that "Nothing can exceed the prospects which the rivers of this country exhibit. The most fertile imagination of a painter can never equal the magnificence of the rural landscapes here drawn by the pencil of Nature. The groves which shade the plains, and extend their branches to the river, the various dimensions of the trees, which cover the eminences, the texture of their leaves, the figure of their fruits, and the various colors they exhibit, form a most delightful scene, which is greatly heightened by the infinite variety of creatures with which it is diversified."¹

The early explorers and Buccaneers tell of how they had to cut their way through the dense and tangled forests of the Isthmus by swords and machetes, and how it required weeks for them to make a journey that could otherwise have been accomplished in so many days. Balboa, on his way to the South Sea, at the time of its discovery, spent twenty days, according to Oviedo, in crossing the Isthmus at its narrowest part, and Morgan and his band, under more favorable conditions, almost perished from starvation in making their way from Chagres to Panama.

From the traveler who visits the tropics for the first time, the *ranchos* or huts of the Indians and mestizos will claim special attention. They are usually of wattled bamboo, thatched with grass or with palm or oleander leaves, and of the simplest possible character. Judging, however, from the number of children always seen about these humble dwellings, there is no race suicide in this part of the world.

One will see many beautiful flowers along the way, but the one that will possess the most interest for the lovers

¹ *A Voyage to South America*. Vol. I, Book III, Chap. I. Dublin, 1758.

of floral beauty is the exquisite orchid of the species *Peristeri elata*, known as *La Flor del Espiritu Santo*—the Flower of the Holy Ghost. It is also known as the dove-plant, from the resemblance of its strangely-formed column¹ to a beautiful white dove. The wax-like wings are sometimes spotted with purple, but whether white or spotted, the “dove” is always an object of rarest delicacy and interest. This remarkable orchid, whose habitat is in the Isthmus, flowers from June to September, and its racemes produce flowers for six or seven weeks after opening. The stems of this stately, highly-ornamental plant are from three to five feet high and its wax-like, sweetly-scented flowers are two inches in diameter. It was introduced to the florists of the United States and Europe from Panama in 1826, but the cultivated plant never equals the gorgeous exhibitions of it one may see in the propitious soil and atmosphere of Panama.

Although we saw many birds of divers species, especially parrots, parrakeets, macaws and humming birds, we did not see a single wild quadruped of any kind, and still less did we observe monkeys chattering in the tree tops that more fortunate travelers than ourselves would have one believe can be seen at any time from the windows of the passing train. I recalled what a school-fellow from the Pacific coast had told me about the numbers he had seen on the way from Panama to Aspinwall, and how I had envied him his opportunity of enjoying such sights. But that was long ago,—before the completion of the Union Pacific railroad. I had to be satisfied with Lionel Wafer’s account of them, for he found them, he assures us, in great droves, some white but most of them black, some with beards, others beardless, but “all extraordinary fat in the dry Season when the Fruits are Ripe. They are,” he informs us, “a very waggish kind of Monkey, and plaid a thousand antick Tricks as we

¹ The name given to the consolidated stamens and pistils which, in most blossoms, are separate organs.

march'd at any time through the Woods, skipping from Bough to Bough, with the young ones hanging at the old ones Back, making Faces at us and chattering. To pass from top to top of high Trees whose Branches are a little too far asunder for their Leaping they will sometimes hang down by one another's Tails in a Chain; and swinging in that manner the lowermost catches hold of a Bough of another Tree, and draws up the rest of them." ¹

These monkeys were almost as clever as some he says he saw on the coast of Peru, "who lived partly upon oysters, which they got out of the Sea at low Water. Their way was to take up an oyster and lay it upon a Stone, and with another Stone Keep beating of it till they had broke the Shell in pieces." ²

Near the point where the railroad leaves the Chagres is a town, inhabited chiefly by negroes and Chinamen, that bears the peculiar name of Matachin, a contraction of two Spanish words *mata chino*, meaning, "Kill Chinaman." It is so called because of an outbreak of yellow fever here in 1887, which carried off no fewer than two thousand Chinamen. These were mostly employés on the canal under the French company. Large numbers of Chinese laborers were also engaged in the construction of the railroad and so many of them fell victims to the ravages of yellow and pernicious fevers that, it is asserted, a Chinaman lies under every sleeper of the road from Colon to Panama.

A short distance from Matachin, on the left bank of the Chagres, on the Gold Road and a short distance from the present railway, is the hamlet of Cruces—formerly Venta Cruz—famous in the annals of pirates and Buc-

¹ *New Voyage and Description of the Isthmus of America*. Second edition, pp. 84-85. London, 1704.

Compare my *Following the Conquistadores up the Orinoco and Down the Magdalena*, pp. 151, 152, New York, 1910; also Jorge Juan and Antonio de Ulloa, ut. sup. Vol. I, Book III, Chap. I, for similar accounts of monkey bridges.

² *Ibid.*, p. 156.

caneers. It was here that Drake captured three *recuas*—mule trains—"one of fifty mules, the other two of seventy each, every one of which carried three hundred pounds of silver; which, in all, amounted to near thirty tons."¹

It was subsequently visited by Morgan on his way to the city of Panama. After capturing the fort of San Lorenzo, that guarded the mouth of the Chagres, he and his men started up the river in canoes and flatboats, and after untold sufferings, arrived at Venta Cruz in a starving condition. They had counted on securing the necessary provisions *en route*, and for this reason, took with them only enough to last the first day. But the wily Spaniards had abandoned their settlements and strongholds along the way and had left behind them no food of any kind. At one place Morgan's men found a few leather bags and they fell upon these "like hungry dogs quarreling for a bone. They fought and wrangled for the scraps of leather and ate them greedily, with frequent gulps of water." It took them seven days to make the journey from Chagres to Venta Cruz, but when they arrived at the latter place, "all sweating and panting," exhausted by hunger and fatigue, instead of finding the store of provisions they expected there, they discovered that the town had been emptied of everything that could assuage the pangs of hunger and then fired by the retreating Spaniards.

We stopped at several places on the way to view the work being done on the canal, but the spot at which we tarried longest was Culebra. Here is where the famous cut is being made, not through the "mighty mountain wall of the Andes," as is sometimes stated, but through a low hill composed of clay and soft, friable rock, which, even before the first shovelful of earth was removed, was

¹ Referring to this expedition of Drake—"The master thief of the unknown world"—Hakluyt writes: "The march was so sore as never Englishmen marched before."

less than three hundred feet above sea level. The length of the cut, extending from Obispo to Pedro Miguel, is less than eight miles, but one soon realizes, when viewing the army of men at work, and seeing the giant steam shovels in operation, that the undertaking is of colossal proportions and one worthy of a race of Titans.

Contrary to what is often imagined, the canal is not being dug in the narrowest part of the Isthmus. The distance from the embouchure of the Rio Chepo on the Pacific to the Nercalegua in the bay of San Blas on the Atlantic, is three miles less than that from Colon to Panama. Neither is the route of the canal located along the lowest level obtainable. The watershed of Guyscayol, between Lake Nicaragua and the Pacific Ocean, is only forty-six meters above sea level, while that of the present canal route at Culebra, before any work was done on it, was nearly twice as high, being eighty-seven and a half meters. The San Blas route which, on account of its lesser length, was at one time thought of in connection with an inter-ocean canal, is fully a thousand feet above sea level, with an intervening massif nearly ten miles long.¹ For this and many other reasons that need not be recounted here, the Colon-Panama route was finally chosen in preference to any of the many others that had been considered at various times before the work of construction was actually begun.

I wish to emphasize the word *many* in this connection, for it is a fact that nearly a score of different routes have been selected since the idea was first conceived of connecting the Atlantic with the Pacific by a navigable waterway.

Nor is the project of recent origin, as is sometimes thought, but one that dates back almost to the time of the discovery of *Tierra Firme*.

It has been well said that "Columbus was the first one to propose a water highway from Europe to Asia, west-

¹ Armand Reclus, *Panama et Darien*, Chap. VII, Paris, 1881.

ward, by way of the Atlantic. It was such a highway that he sought and not the new world which he actually found." In a certain sense, therefore, "Columbus was the practical founder of the enterprise, which, after four centuries of delay, President Roosevelt has undertaken to complete. Nevertheless, the error of his conceptions and of his conclusions in no way detracts from the glory of Columbus. He went to seek a new road to a known continent. Instead, he found two hitherto unknown continents, and to their colonized inhabitants in after-centuries he left the lesser work of creating by artifice the water highway which he had sought, but which he sought in vain, because Nature had failed to create it."¹

Although all the voyages of the illustrious Genoese had for their object the discovery of a direct western route to Asia, the fourth and last one was particularly remarkable for the supreme effort he made to disclose the "Secret of the Strait." He coasted along the shores of what is now known as Central America and the Isthmus of Panama from Gracias a Dios to the Gulf of Darien, "passing from cape to cape and from bay to inlet, gazing upon the marvels of the New World, trafficking with the bronzed Indians and bartering curious wares for barbarous gold," seeking at every point for that mythical passage which he was sure must exist, and which, if found, would put into his possession all the fabled treasures of the Isles of Spices and of the Golden Chersonesus. He entered the bay of Porto Bello and thence proceeded to Nombre de Dios, both places celebrated as the one-time chief ports on the Caribbean for the rich merchandise of Peru. He anchored in the bay of Limon, on which Colon and Cristobal, both of which places are named after him, are now built, and furled his sails in the Chagres River at, perhaps, the very spot where it meets the great canal at Gatun.

¹ W. F. Johnson, *Four Centuries of the Panama Canal*, pp. 1 and 17, New York, 1906.

What Columbus failed to achieve, other explorers endeavored to carry to a successful issue. Among these was Gil Gonzales Davila, who, in imitation of Balboa's feat, carried the materials for his exploring caravels across the Isthmus. He was the discoverer of Lake Nicaragua, which, according to Indian legends, once united the "Northern with the Southern" Sea. There were also Alvarez de Pineda, Juan de Grijalva, and Hernando de Soto, the discoverer of the Mississippi, who explored the Mexican coast in the eager quest for "the shorter route to Cathay."

Hernando Cortez, the famous conqueror of Mexico, after the fall of the empire of Montezuma, likewise engaged in the search for the Strait by the direct command of Charles V. What value this strenuous conquistador attached to the discovery of the eagerly-sought passage is evinced from the following words in a letter to his sovereign written in 1524:—"If the Strait is found, I shall hold it to be the greatest service I have yet rendered. It would make the King of Spain master of so many lands that he might call himself Lord of the whole world."

France gave Giovanni da Verrazzano and Jacques Cartier the same commission and they explored the Atlantic coast as far north as Labrador. Hendrik Hudson was seeking the Strait when he ascended the river that bears his name. In his day, it was thought that the North American continent was no wider in the latitude of the Hudson's mouth than it was at Panama. Cartier was in quest of the Strait when he sailed up the St. Lawrence, as was also La Salle. The latter's feudal domain, near Montreal, retains to this day the name "*La Chine*"—China—which, Parkman tells us, was given in derision of the futile attempt to find the way to eastern Asia.¹

Magellan, it is true, did discover a strait leading from the Atlantic to the Pacific, but it was so remote from the

¹ *La Salle and the Discovery of the Great West*, Vol. I, p. 29, Boston, 1897.

world's great centers of traffic that it did not satisfy the urgent demands of ever-expanding commerce.

As soon as the Spanish explorers had satisfied themselves that there was no natural waterway between the two great oceans, they began to talk of creating an artificial one. This was a long time before the voyages of Hudson and a longer time still before Davis and Frobisher and Baffin went in quest of the Northwest Passage.

The first to propose an interoceanic canal was apparently Hernando Cortes, and he went so far as to have the Isthmus of Tehautepec surveyed with a view to the construction of such a waterway. He was followed in this ambitious scheme by his cousin, Alvaro de Saavedra Ceron, who, having been with Balboa on his journey to the South Sea, and was therefore familiar with the narrowness and low elevation of the Isthmus along the path traversed by them, had, Galvano informs us, "meant to have opened the land of Castilla de Oro and New Spain from sea to sea."¹

Shortly after Cortes had written the above-mentioned letter to his sovereign, Gomara and Galvano, referring to the importance of an artificial canal and of its superiority over the routes by the Strait of Magellan, the Cape of Good Hope and the problematic Northwest Passage, indicated four routes which they deemed feasible. And, strange as it may appear, these were the very routes that have been so much discussed in our own day—namely, those of Tehuantepec, Nicaragua, Darien and Panama.

Of this stupendous enterprise, of which he took a most optimistic view, Gomara writes:—"There are mountains, but there are also hands. Give me the resolve and the task will be accomplished. If determination is not lacking, means will not fail; the Indies, to which the way is to be made, will furnish them. To a King of Spain,

¹ *The Discoveries of the World*, p. 180, printed by the Hakluyt Society, 1852.

seeking the wealth of Indian commerce, that which is possible is also easy.”¹

Charles V was specially insistent about the great undertaking, and, with a view of determining the most practicable route, had surveys made in various parts of *Costa Firme*, as the Panama isthmus was then called, among which was a survey of the valley of the Chagres along practically the same route that has been adopted by our American engineers.

Philip II at first held the same views as his father about the importance of the canal, but he soon changed his policy. He was discouraged by the unfavorable reports received from his engineers, and the rapidly rising power of the English at sea made him fear that he would not be able to control it if constructed. Finally, like the historian Acosta, he apparently concluded that “it would be contrary to the Divine Will to unite two oceans which the Creator of the World had separated, and that to attempt so impious a deed would surely provoke some appalling catastrophe.”² Accordingly, he not only abandoned all schemes for a canal, but he forbade the making of them, decreed that no canal should be constructed, and imposed, it is said, the penalty of death upon any one who should make known, or should attempt to seek a better route across the Isthmus than the overland trail from Porto Bello to Panama; especially interdicting attempts on the Mandigua or Atrato River.”³

¹ *Historia General de las Indias*, p. 222, of *Biblioteca de Autores Españoles*, Tom. XXII, Madrid, 1877.

² “I believe there is no humane power able to beat and breake downe those strong and impenetrable mountaines, which God hath placed betwixt the two seas, and hath made them most hard rockes, to withstand the furie of two seas. And although it were possible to men, yet in my opinion they should feare punishment from heaven in seeking to correct the workes which the Creator by his great providence hath ordained and disposed in the framing of this universall world.” *The Natural and Moral History of the Indies*, translated by Edward Grimston, Book III, Chap. X, London, 1604.

³ Johnson, *op. cit.*, pp. 33 and 34, Scruggs, *The Colombian and Venezuelan Republics*, pp. 13 et seq., Boston, 1905; and Forbes Lindsay, *Panama, the Isthmus and the Canal*, Philadelphia, 1906.

Little more was said or done about an Isthmian waterway until the latter part of the seventeenth century. It was then that Lionel Wafer, who had accompanied the freebooter, Captain Sharpe, across the Isthmus, near the route that had been followed by Balboa, returned to England and reported that "in that part of the Isthmus there was no mountain range at all. There were only detached hills, among which were broad low valleys, extending across the narrow Isthmus from sea to sea."

A canny Scott, William Patterson, the founder of the Bank of England, learning of this, conceived the idea of establishing a colony on the Isthmus of Darien, which should secure for Great Britain "the Keys of the Universe, enabling their possessors to give laws to both oceans, and to become the arbiters of the commercial world." His views regarding the control of the Isthmus were identical with those of Cortes and expressed in almost the same words. His colony was a failure, but the names Puerto Escoces and Caledonian Bay, on which the colony was established, still remain on the maps, and the Caledonian Canal Route, which he personally surveyed, attests to his eagerness in securing for his country the inestimable benefits that would accrue from the control of a waterway from the Atlantic to the Pacific.

After the collapse of Patterson's schemes, nothing of moment regarding an interoceanic canal was accomplished until Humboldt, early in the nineteenth century, directed anew the world's attention to the prime importance of the enterprise which, he declared, was "calculated to immortalize a government occupied with the true interests of humanity."¹

The investigations of Humboldt regarding the Isthmian canal had immense interest for everyone but for none more than for his illustrious countryman, the poet Goethe, whose forecast regarding the connection of the

¹ *Essai Politique sur le Royaume de la Nouvelle Espagne*, Tom. I, p. 260, Paris, 1811.

United States with the great work was truly prophetic. In his *Conversations with Eckermann and Soret* in February, 1827, he expresses himself in the following remarkable manner:—

“So much, however, is certain, that if they succeed in cutting such a canal that ships of any burden and size can be navigated through it from the Mexican Gulf to the Pacific Ocean, innumerable benefits will result to the whole human race, civilized and uncivilized. But I should wonder if the United States were to let an opportunity escape of getting such a work into their hands. It may be foreseen that this young State, with its decided predilection for the West, will in thirty or forty years, have occupied and peopled the large tract of land beyond the Rocky Mountains. It may, furthermore, be foreseen that along the whole coast of the Pacific Ocean, where Nature has already formed the most capacious harbors, important commercial towns will gradually arise, for the furtherance of a great intercourse between China and the East Indies and the United States. In such a case it would be not only desirable but almost necessary that a more rapid communication should be maintained between the eastern and western shores of North America, both by merchant ships and men of war, than has hitherto been possible with the tedious, disagreeable and expensive voyage around Cape Horn. I therefore repeat that it is absolutely indispensable for the United States to effect a passage from the Mexican Gulf to the Pacific Ocean; and I am certain that they will do it.”¹

One would think that the immortal bard was speaking at the time when the *Oregon* was making her wonderful voyage around the Horn and not three-quarters of a century earlier. This was one of the great undertakings he wished to see realized before his death. “It would,” he declared, “well be worth the trouble to last some fifty years more for the very purpose.”²

¹ P. 222, The Bohn edition, 1892.

² *Ibid.*

But it is not my intention to give an epitome of the history of the Panama Canal. That has frequently been done by others.¹ I merely wish to call attention to the less known and more interesting features connected with this colossal enterprise.

From the time of Humboldt and Goethe, in its gradual evolution from a mere idea to an accomplished fact, the question of the canal was taken up with renewed interest and with a more determined purpose by statesmen and engineers. It became the subject-matter of international politics and protracted diplomacy. During all this time the face of the great American Republic was set toward the Isthmus, and, after long years of discussion and numberless surveys and the making and abrogating of many treaties, the United States finally stepped in to complete the work that Goethe, in the early part of the preceding century, had declared was indispensable to its fullest commercial and military efficiency.

The vast army of men so intelligently directed and so admirably cared for, working so effectively and so enthusiastically from Colon to Panama assures the early completion of this the greatest engineering feat of the ages.

"When do you expect to finish the canal?" I asked a young American engineer operating one of the large steam shovels employed in excavating Culebra cut. "If Roosevelt were in charge here, the work would be completed in six years. You can't imagine what ginger he put into the boys when he was here. He is the man to make the dirt fly. We should like to see him come down here to boss the job." "You bet your life we would," chimed in a sturdy ex-Rough Rider, standing hard by. "Teddy is the boy to make things move, I tell you. I served under him in Cuba and I know what I am talking about. If this old ditch is ever finished, it will be because he took it in hand. Nobody else would ever have

¹ Especially by Forbes Lindsay, whose latest work, *Panama and the Canal To-day*, gives a graphic account of this stupendous undertaking.

had the nerve to undertake the work when there was so much opposition to it. That Frenchman, De Lesseps, was able to build the Suez Canal, but he had to throw up his hands when he tackled Panama. It was too much for him. It took a big, wide, go-ahead American with a 'Big Stick' to do the trick. We are all proud of him, and, if we had our way about it, the canal, when finished, would be called Roosevelt Canal. Taft is a good fellow and Goethals is a good fellow, and they have both done splendid work on the canal, but, say what you will, Teddy is the daddy of them all. He knows how to do things and he does them. And wherever you run across him you will be sure to find him going some."

There is no doubt about it, Roosevelt's influence has been a powerful factor in guaranteeing the success of the Panama enterprise, and his spirit, it was evident, pervaded the ranks of the thirty-five thousand men that were at the time of our visit striving with irresistible energy and unabated enthusiasm to finish at the earliest possible date the most stupendous work ever undertaken by man—a work before which the pyramids of Egypt, marvelous as they are, fade into insignificance.

When the work shall be completed, the dream of Columbus will be a reality and the Strait, that so many ardent explorers sought for so eagerly, will be no longer a secret. The direct route to Cathay and the Island of Spices will be opened to the traders of the world and the mariner on the storm-swept Atlantic will at last be able to direct the prow of his vessel toward Balboa's *Mar del Sur*, not far from where it first met the ecstatic gaze of the ill-fated conquistador, and say with Tennyson's Ulysses:

"My purpose holds
To sail beyond the sunset, and the baths
Of all the western stars."

There is apparently but one thing that may interfere with the successful operation of the canal after its completion—earthquakes. There is, however, but little to be apprehended from this source, as the danger, although possible, seems remote. It is true that the canal is in the belt of seismic disturbances, but, outside of the comparatively slight shocks of 1854 and 1882, there is no record of any serious earth-tremor during the last four centuries. As an evidence of the freedom of the Isthmus from the heavy shocks, the natives point to the large tower, yet standing, of the Cathedral of Old Panama, which is still in an admirable state of preservation. A better evidence probably of the exemption of Panama from earthquakes, as compared with the neighboring republic of Costa Rica, is the fact that during the years 1901 and 1903 there was not a single shock at Panama, whereas, in San José there were one hundred and fifty, more than thirty of which were quite severe.

Humboldt speculated on the possible results in the currents of the ocean which would follow the construction of a tide-level canal. "We cannot doubt," he writes, "that if the Isthmus of Panama were once burst, by some similar catastrophe to that which opened the columns of Hercules, the current of rotation, instead of ascending toward the Gulf of Mexico and issuing through the Bahama Channel, would follow the same parallel from the coast of Paria to the Philippine Islands. The effect of this opening or new strait, would extend much beyond the Banks of New Foundland, and would either occasion the disappearance or diminish the celerity of the Gulf Stream."¹

No results would follow the construction of a lock canal, and it is highly improbable that any change in

¹ Op. cit., Tom. I, pp. 245-246.

Acosta, *ut. sup.*, referring to the prophet "to joyne one sea to the other" writes "some would say it were a meanes to drowne the land, one sea being lower than another."

ocean currents would be effected through a tide-level channel, unless it were as wide as the one depicted on the map of Waldseemüller, who was unaware of the existence of an isthmus connecting the northern continent of the New World with the southern.

Much as we were interested in examining the huge undertaking that was to separate two continents, which had been united since the late Miocene, there was another work of a different character, but of supreme importance, that has been conducted on the Isthmus, which elicited our keenest attention and commanded unbounded admiration for the marvelous—apparently impossible—results that have been achieved in a few short years and that, too, in the face of what seemed to be unsurmountable obstacles.

I refer to the extraordinary work that has been accomplished by Colonel Gorgas and his energetic associates in extirpating malaria and yellow fever from the Canal Zone, and in eliminating from it those other recurrent plagues which, prior to the arrival of the American sanitary officers, had so decimated the ranks of the employés on the canal and railway. No better illustration could be given of the achievements of sanitary science than the change that has been effected by the introduction here of modern prophylactic methods in fighting against virulent diseases that had been endemic from time immemorial.

The American government realized from the outset that, next to the digging of the canal, the most important task confronting it was the proper sanitation of the Canal Zone. The canal was to be built for all time and should therefore be in a salubrious territory. Epidemic diseases and their causes should be eradicated at once, so as to obviate that frightful life-toll that had hitherto been claimed among the ranks of the railway and canal employés on the Isthmus. President Roosevelt, in his address to the Canal Commission—as they were about to enter upon their

duties in the spring of 1904,—emphasized the importance of this part of their work in the following words:—

“There is one matter to which I ask your special attention—the question of sanitation and hygiene. You will take measures to secure the best medical experts for this purpose whom you can obtain, and you will, of course, make the contractors submit as implicitly as your own employés to all the rules and regulations of the medical department under you.”

Before Colonel Gorgas entered upon his campaign against the *Anapholes* and the *Stegomya*—the malarial and yellow fever mosquitoes—the unsanitary condition of Panama was expressed in the following lines:

“For dangers uncounted are clustering there,
The pestilence stalks uncontrolled.
Strange poisons are borne on the soft languid air
And lurk in each leaf’s fragrant fold.”

It suffices to recall the frightful loss of life among the California gold-hunters, between the year 1849 and the completion of our first transcontinental railroad; to allude to the time when the death rate among the employés of the French Company rose to four hundred out of a thousand, and to realize the pestilential condition of the Isthmus from the mouth of the Chagres to the Bay of Panama, to have some conception of the magnitude of the task that confronted the American sanitary officers when they assumed charge of the Canal Zone, July 1, 1904.

The undertaking was enough to appall the stoutest heart, but Colonel Gorgas and his aids were nothing daunted. They were fresh from their triumphs in Havana, and had absolute confidence in the efficacy of their methods. A year later, so intelligent and well-directed had been their efforts, so thorough their work, even to the minutest details, that victory was in sight. Three months later yellow fever had been completely stamped out of the Canal Zone and the death rate among employés had been reduced

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to eleven per thousand, which is far below that of the larger cities of the United States and Europe.

This was, indeed, a marvelous showing, but when certain swamps shall have been filled in; when wide stretches of grass and jungle shall have been cut and burned; when the drainage and sewage systems, now under construction, shall have been completed, and when other precautionary measures, now in force, shall have had time to exhibit results, then there is every reason to believe that the death rate shall be lower even than it is at present, and but little, if at all, above that of the most sanitary of our northern cities.¹

¹ According to the *Annual Report of the Isthmian Canal Commission for the Fiscal Year ending June 30th, 1909*, the death rate of the total population in the Canal Zone, including the cities of Colon and Panama, was 22.04 per thousand. The death rate of the wives and children of employés from the United States was only 7.38 per thousand, while the death rate from disease of the white employés from the United States was reduced to the astonishingly low figure of 3.70 per thousand. The mortality of the negro employés was 11.98 per thousand, as against a mortality of one hundred and twenty-seven years before. When one remembers that the rate of mortality in the larger cities of the United States and Europe ranges from eighteen to twenty-eight per thousand, and is in the leading cities of Asia and Africa, nearly twice as great, the significance of the above figures becomes apparent. Indeed, the marvelous achievement of Colonel Gorgas and his staff in transforming the Panama zone from one of the greatest plague spots in the world into one of the most salubrious of localities, is little short of miraculous.

In a recent address before the sixtieth annual session of the American Medical Association, Colonel Gorgas expressed himself as follows:

I believe that the debility from which the white man has suffered in the past at Panama and in other tropical countries is due to malaria principally, and that if he protects himself from this infection he will remain as vigorous and strong as if he were living in a temperate climate. As a reason for this belief, I would cite the health conditions of the Americans at Panama.

We have about 8,000 white Americans there, living under the same conditions that exist at home among men doing the same character of work. They are exposed to the weather fully as much as they are at home, a large proportion of them being exposed for eight hours daily to the tropical sun and rains. Notwithstanding this, the figures quoted show that their general health remains fully as good as it was in the United States.

The only difference between ourselves and the whites formerly in Panama is that we have succeeded in protecting ourselves entirely from yellow fever and also, to a considerable extent, from malaria. Yellow fever has a great

During my week's sojourn in Panama I was not even once annoyed by mosquitoes, and succeeded in finding one in my bedroom only after a protracted search. Naturally, it was quite harmless, even if it had bitten me, for, as there had been no cases of yellow fever in the Isthmus for several years, it could not have been infected and could not, consequently, have inoculated any one with the yellow fever microbe.

So salubrious, indeed, is now the climate of Panama, and so delightful during the dry season, that there is a likelihood of its soon becoming a popular resort for tourists, especially for those who wish to escape the rigors of our northern winter. I know of no place that has a more uniform temperature. Not even that of Barbados, which is justly famous, is so mild or equable. The average annual temperature is about 80° F., and the average highest and lowest temperatures are not more than four or five degrees above or below this figure.

It is a singular fact that cases of sunstroke are almost unknown in the city of Panama, and there is no record there of the thermometer ever reaching 100° F. And this in a spot only one degree from the thermal equator! Contrast this with the elevated temperatures recorded in many of our cities in the United States where the mercury frequently mounts several degrees above 100° F.

While the humidity on the Isthmus is very great, it is never so excessive as it is sometimes in New York and Washington. But the Isthmians suffer from it during a longer time than we do in the north. It is the long-con-

effect on the death rate of a non-immune population, but it is not a noticeable cause of debility. On the other hand, malaria is a disease which may affect the individual for years, and in a locality like Panama is responsible for a widespread condition of debility throughout the population.

It is neither difficult nor expensive for a white man going to the tropics to protect himself from malaria. It is only necessary that he should screen his house well, drain and clear off the brush within one hundred yards of his residence. These measures are much less expensive than those he must take in the temperate zones to protect himself from cold.



ROOSEVELT AVENUE, CRISTOBAL-COLON.



CITY OF PANAMA.

tinued humidity, like the long-continued high temperature, that renders the climate debilitating and uncomfortable, but notwithstanding these drawbacks I have met many who prefer the uniform climate of Panama to our variable, capricious climate of the north.

The rainfall on the Isthmus, especially on the Caribbean side, is extremely heavy. At Colon it averages twelve feet a year,—an enormous amount.¹ I shall never forget my first night at Colon, for it was signalized by the heaviest downpour I ever witnessed. The water literally came down in sheets so thick that one could see but a short distance. It seemed as if the flood-gates of heaven had been opened and as if another Noachian deluge was imminent.

It is this heavy rainfall, combined with the great number of rainy days—the average number annually at Bohio being two hundred and forty-six—that makes work on the canal so difficult and renders progress at times so slow.

To the traveler from the north, every spot on the Isthmus is interesting, but the place that is most fascinating and where he will be disposed to linger longest, both on account of its acknowledged charm as well as on account of its many historic associations, is undoubtedly the city of Panama.

It is a typical Spanish city, built on a rocky peninsula, and has many large and beautiful stone structures, which contrast strongly with the wooden and galvanized iron buildings of the American port of Colon. Its churches, notably its large and beautiful cathedral,—one of the most imposing in Latin America—are sure to claim attention.

Then there is the old sea wall, against which dash the breakers of the Pacific, which now affords the most delightful promenade in the city. It is almost all that remains of the massive walls that at one time girdled the city and made it practically impregnable. The cost of the complete

¹ The mean annual rainfall at New York is 42 inches, Montreal 36 inches, Madrid 10 inches.

walls and fortifications, when labor was almost gratuitous, was \$11,000,000, and they constituted, after those of Cartagena, the strongest and most costly defenses of any city in the New World. The walls, still standing, are in places from thirty to forty feet high and sixty feet broad, and, being of solid masonry, are still in a good state of preservation.

The view from this elevated promenade is one of exceeding beauty. On one side are the red-tiled roofs and pearl-covered towers of the city, with its delightful parks and masses of feathery palm fronds; on the other the emerald shores and the broad sapphire expanse of the Southern Sea, dotted with the verdant isles of Naos, Perico, Taboga and Flamenco, which emerge from the placid ocean like the peaks of a lost Atlantis.

In the streets of Panama one will meet with representations of every race and nation. Many are transients, others are engaged in business. I was surprised at the large number of Chinese merchants in the city and their evident success in mercantile pursuits. "The Chinese," one of them proudly assured me, "are the best merchants in the world and can successfully meet competition anywhere." In Panama and Colon they seem to have the lion's share of the business and some of their larger stores are well worth visiting.

But it is the refined and cultured women, the courteous and hospitable men of the old Spanish families, some of them descendants of the conquistadores, who make the deepest impression on the visitor to the charming and restful metropolis of the young republic. Many of them have been educated in Europe, or in the United States and are, consequently, well informed and of broad sympathies. One who has been privileged to enjoy their hospitality and friendship will ever cherish the memory of his association with such delightful, noble people.

Time was when Panama was probably the richest and most important city on the western hemisphere. It was

the seat of a royal audience and the metropolis through which passed the countless millions of treasure from "Golden Peru" to imperial Spain. Its bay was filled with well-freighted galleons from every port, and its merchant princes lived a life of oriental ease and luxury.

If Panama achieved such distinction when the commerce of the New World was yet in its infancy and was controlled almost entirely by the mother country, what may we not predict of it when the great waterway, now rapidly nearing completion, shall be opened to the merchantmen of all nations; when the once famous city shall again, but under more favorable circumstances, be on one of the world's greatest highways of commerce, and when, in lieu of the solitary banner of Castilla and Leon, she shall see her placid harbor gay with the flags of every clime, and pulsating with deep-laden argosies from every land? Then, indeed, will she witness the fulfillment of the great designs of Columbus and Cortes in favor of humanity and have ever at her gates a glorious monument to the energy and power and patriotism of the greatest of the world's commonwealths.

CHAPTER II

ON THE GREAT SOUTH SEA

After a delightful and instructive week spent on the Isthmus, I prepared to start for Guayaquil, the chief seaport of Ecuador. The steamer was scheduled to leave promptly at noon, and all passengers were requested to be aboard about an hour before that time. A special train conveyed us from Panama to La Boca—now called Balboa—where a splendid steel wharf has been constructed and where several large ocean vessels may safely and conveniently moor at the same time. The Pacific entrance to the canal is at this point. In marked contrast with the mean range of the tide—a little more than a foot—at Colon, the range at Panama is twenty feet. For a long time it was supposed that the Pacific Ocean was from ten to twenty feet higher than the Caribbean Sea, but it is now known that both bodies of water are at the same level.

The view of the city of Panama from the deck of the steamer, as she glides southward through the placid waters of the bay is one of exceeding loveliness. Reposing at the foot of Ancon Hill and garlanded by emerald green verdure, it possesses throughout the year all the charm of Palermo in May or October.

About six miles to the south of the city is all that remains of *Panama Viejo*—Old Panama—which was ravaged and burned by that ruthless Welsh Buccaneer, Sir Henry Morgan, in 1671. Aside from an arch of a bridge and the foundations of some of the more notable buildings, now concealed by a dense network of shrub and vine, and over-spread by a thick-matted forest, almost all that now remains of this former “Gate of the Western World” is the

massive and picturesque old tower of the Cathedral of St. Anastasius.

Old Panama was founded in 1518 by Pedrarias Davila—that *Furor Dei*—Scourge of God—as he was called, on account of his cruelties, on the site recommended by Balboa, and was the oldest European city on the mainland of the New World. The word Panama is of Indian origin and signifies “abounding in fish.” On the seashore hard by were “quantities of very small *mussels*,” and it is said that these mussel beds determined the site of the future metropolis “because the Spaniards felt themselves safe from hunger on account of these mussels.”

For a long time Old Panama was, after Cartagena, the chief city of South America. It was celebrated as the “glorious city of Panama,” as “the grandest metropolis in the South Seas,” as the peer of Venice when the painted city of the doges was yet “the incomparable Queene” of the Adriatic. It was from this city that the conquistadores set forth on their marvelous careers of discovery and conquest. It was from here that the Pizarros and Almagro and Bellacazar sailed to Golden Peru. To the harbor of Panama came the rich galleons laden with the gold and silver from the land of the Incas and with the pearls from the islands of the South Sea.

It was then “the greatest mart for gold and silver in the whole world.” And “as the city grew in wealth, so it grew in magnificence, in the costliness of its buildings, in the extravagance of its luxuries and in that languid sensuousness which saps life in the tropics.” Its merchant princes lived like oriental satraps in stone houses of Moorish design, finished in carved aromatic woods and decked with the most beautiful tapestries and works of art that money could command. And as they appeared in public, in lace-decked attire or brocaded silk, with their retinue of slaves, they may well have outshone the gorgeously dressed Venetians who, in days long passed, strutted before an admiring crowd in the famed old Rialto.

Old Panama was the western terminus of the famous Gold Road, the *camino real*, over which long lines of mule trains carried countless millions of treasure to Venta Cruz, Puerto Bello and Nombre de Dios, on the way from Peru to Spain. Over this road traveled Drake and Morgan and other freebooters of lesser note.

The old harbor, too, has witnessed as stirring scenes as did the Gold Road, for here took place some of the most daring exploits of certain of the Buccaneers, notably that of Sawkins, Coxon and Ringrose in their capture of the famous old galleon, *La Santísima Trinidad*. The harbor "that saw all this," says Treves, "is now an utter solitude, silent and forgotten, a sea-refuge hidden in a mysterious forest, a place of shadows, haunted only by pelicans and sea birds, and where none but the ghosts of ships come in on the rising tide."¹ Verily, *sic transit gloria mundi*.

Some forty or fifty miles southeast of Panama, we passed the famous group of Pearl Islands which attracted so much attention at the time of their discovery by Balboa, and which were for a long time so prolific a source of revenue for the Spanish crown. From the view-point of many of his countrymen, Balboa's most important achievement in crossing the Isthmus of Panama was not in discovering the boundless expanse of the South Sea—an achievement second only to that of Columbus—but in making known that group of islands which, next to the mines of Peru, contributed most to the coffers of the Spanish monarch.

Pearls were then so common that the Indians used them for adorning the paddles of their canoes. The chief of Terarequi—the largest of the Pearl Islands—gave to Gaspar Morales, who visited the place two years after Balboa's discovery—a basketful of pearls that weighed one hundred and ten marks—nearly nine hundred ounces—for which he received in exchange glass beads, mirrors, hawk-bells and similar articles of little value. In addition to this he prom-

¹ *Cradle of the Deep*, p. 339, London, 1908.

ised to send to the Spanish monarch thenceforth an annual tribute of one hundred marks of pearls. Some of these pearls were as large as filberts and of exceeding beauty of form and luster, while others found in the same fisheries a short time subsequently at once took place among the largest and most perfect of the world's gems.

Oviedo, in the quaint translation of Eden, refers to the pearls of Terarequi and of the adjoining islands as follows:

"Lykewise pearles are found and gathered in the South Sea cauled Mare del Sur. And the pearles of this Sea" and the Caribbean Sea "are verye bygge. Yet not so bigge as they of the Ilande of pearles cauled *de las perlas* or *Margarita*, which the Indians caul Terareque, lying in the goulfe of Saincte Michael where greater pearles are founde and of greater price then in any other coaste of the Northe Sea, in *Cumana*, or in any other parte. I speake this as a trewe testimonie of syght having been longe in that South Sea, and makynge curious inquisition to bee certenly informed of all that perteyneth to the fysshynge of pearles. From this Ilande of Terarequi, there was brought a pearle of the fasshyon of a peare, wayunge XXXI. carattes, which *Petrus Arias* had amonge a thousande and so many poundes weight of other pearles which hee had when captayne Gaspar Morales (before *Petrus Arias*) passed to the saide ilande in the yeare 1515, which pearle was of great price. From the said Ilande also, came a great and verye rounde pearle, which I brought oute of the sea. This was as bigge as a smaule pellet of a stone bowe and of the weight of .XXVI. Carattes. I bought it in the citie of *Panama* in the sea of Sur: and paide for it syxe hundreth and syxtie tymes the weyght thereof of good gold, and had it thre yeares in my custodie: and after my returne into Spaine, sould it to the earle of *Nansao*, Marquesse of Zenete, great chamberleyne to yowre maiestie, who gave it to the Marquesse his wyfe, the lady *Mentia of Mendoza*. I thyncke verely that this pearl was the greatest, fayrest and roundest that hath byn seene in those partes. For yowre maiestie owght

to understande that in the coaste of the sea of *Sur*, there are founde a hundreth great pearles rounde after the fasshyon of a peare, to one, that is perfectly rounde and greate. This Ilande of *Terarequi*, which the Christeans caule the Ilande of pearles, and others caule the Ilande of flowres, is founde in the eyght degree of the southe syde of the firme lande in the provynce of Golden Castyle or Beragua.”¹

The pearling industry in these waters was an important one until the middle of the eighteenth century, and the size and orient of the pearls obtained rived those of Ceylon. After this date pearling gradually declined, although several ineffective attempts have been made to revive the industry. The fisherman, however, is still occasionally rewarded by the finding of a large and valuable pearl. A few years before my visit a native boy, aged fifteen, found a pearl for which he received \$1,760, and for which an offer of thirty thousand francs was subsequently refused in Paris. Another pearl, worth \$2,400, had been found, so we were informed, quite near the steamer anchorage at Panama.

A few leagues east from the Pearl Archipelago, is San Miguel Bay. This place had a special interest for us, as it was in the waters of the north shore of this bay that Balboa, sword in hand, formally took possession of the South Sea for the crown of Castile. Leaving the Caribbean at some point between Cape Tiburon and Caledonian Bay, he cut his way through the dense forests and savage jungles that impeded his march until at last on the memorable 25th of September, 1513,

¹ *The First Three English Books on America*, p. 214, edited by Edward Arber, London, 1895.

The historian Acosta, who went to Peru in 1570, writing of the vast quantity of pearls found in these islands and elsewhere in the New World, says, “At the first pearles were in so great estimation, as none but royall persons were suffered to weare them, but at this day there is such abundance as that the negresses themselves do weare chaines thereof.” *Op. cit.*, Book IV, Chap. XV.

ON THE GREAT SOUTH SEA

“With eagle eyes
He stared at the Pacific,—and all his men
Look’d at each other with a wild surmise,—
Silent upon a peak in Darien.”¹

As the vast expanse of waters, on which Balboa’s ecstatic gaze was then riveted, was south of the point where he stood and south of his point of departure from the Northern Sea, as the Atlantic was then called, the discoverer called it *Mar del Sur*—Sea of the South—a name it long retained. Magellan, in 1520, after escaping from the sudden and violent tempests, to which he was exposed during the passage of the strait which now bears his name, called the southern part of the ocean, discovered by Balboa, the Pacific. “Well was it named the Pacific,” writes Pigafetta, who accompanied Magellan on this voyage, “for during this time”—three months and twenty days, that they were on this ocean—“we met with no storm.”²

So elated was Balboa over his epoch-making discovery that he, says Peter Martyr, “with no lesse manlye corage than Hanniball of Carthage shewed his souldiers Italye and the promontories of the Alps, exhorted his men to lyft up their hartes, and to behoulde the land even now under theyre feete and the sea before theyre eyes, whiche shoulde bee unto them a full and iust rewarde of theyre great laboures and trauayles now ouerpassed. When he had sayde these woordes, he commanded them to raise certeine heapes of stones in the steede of alters for a token of possession. Then descendynge from the toppes of the mountaynes, least such as might come after hym shoulde argue hym of lyinge and falshod, he wrote the Kynge of Castelles name here and there on the barkes of the trees bothe on the ryght

¹ By inadvertence, Keats, in the beautiful sonnet from which the above verses are taken, credits Cortes, instead of Balboa, with the discovery of the Pacific.

² *The First Voyage of Magellan*, translated from the accounts of Antonio Pigafetta by Lord Stanley of Alderley for the Hakluyt Society, p. 65, London, 1874. Pigafetta, on his map, calls the South Sea *Mare Pacifico*.

hande and on the lefte; and raysed heapes of stones all the way that he went, untill he came to the region of the nexte Kynge towarde the south whose name was Chiapes.”¹

This was taking possession of the South Sea from a distance. The act of taking possession on arriving at the north shore of the Gulf of San Miguel was accompanied with much greater formality and ceremony. And so typical is it of similar performances of the conquistadores that I transcribe from Oviedo his account of the manner in which Balboa and his companions claimed for his sovereigns the Sea of the South, all islands in it and all lands bordering on it in what part of the world soever. Armed with his sword and shield and bearing aloft a banner on which were painted an image of the Blessed Virgin and the Divine Child and the arms of Castile and Leon, Balboa, followed by his associates, entered the water until it rose above his knees, when in a loud voice he said:

“Long live the high and mighty monarchs, Don Ferdinand and Donna Juana, sovereigns of Castile, of Leon and of Aragon in whose name and for the royal crown of Castile, I take real and corporal and actual possession of these seas and lands and coasts and ports and islands of the South and all thereunto annexed; and of the kingdoms and provinces which do or may appertain to them in whatever manner or by whatever right or title, ancient or modern, in times past, present or to come, without any contradiction; and if other prince or captain, Christian or infidel, or of any law, sect or condition whatsoever, shall pretend any right to these lands and seas, I am ready and prepared to maintain and defend them in the name of the Castilian sovereigns, present and future, whose is the empire and dominion over these Indias, islands and terra firma, northern and southern, with all their seas, both at the arctic and antarctic poles, on either side of the equinoctial line, whether within or without the tropics of Cancer and Cap-

¹ Eden, *Op. cit.*, p. 139.

ricorn, both now and in all times, as long as the world endures, and until the final judgment of all mankind.”¹

After this swelling proclamation by their leader, his followers expressed themselves in a similar manner and then the notary, who always accompanied such expeditions, was ordered to make on the spot, an exact record of what had been said and done, which was duly signed and authenticated by all present.

There was, the reader may say, something Quixotic in such proceedings, but be that as it may, the Spanish explorer precluded by this means the possibility on the part of any one who came after him to “argue hym of lyinge and falshod.”

So long as we were in the Gulf of Panama, the Sea of the South was tranquillity itself and almost mirror-like in appearance. We then had ocular evidence of the appropriateness of the name of the Bay of Calms, which has been given to these waters. The sea could not be more placid in the Doldrums. But after we attained the high sea, beyond the limits of the Gulf of Panama, the ocean became so rough that few were disposed to see anything pacific about it. It was not at any time so tempestuous as I had frequently found it in higher latitudes, but the motion of the steamer was so violent that many of the passengers were compelled to take to their berths.

Although we never encountered any of the furious tempests which “lash the sea into fury,” or saw any of the “boiling surges” which Prescott tells us threatened with destruction the flimsy barks of Pizarro and his companions, we never ceased to marvel at the daring of that adventurous band, who, braving the dangers of an unknown sea, set forth to conquer the powerful empire of the Incas. As an exhibition of tireless energy, continuity of purpose in face of apparently insuperable obstacles, and triumphant

¹ *Historia General y Natural de las Indias Islas y Tierra Firme del Mar Occano*, por El Capitan Gonzalo Fernandez de Oviedo y Valdez, Lib. XXIX, Cap. III, Madrid, 1853.

achievement after untold suffering and dangers innumerable, the expedition of Pizarro quite eclipses everything of the kind recorded in the annals of conquest in any part of the world.

It was not only with known dangers—wind, rain, lightning, tempestuous seas, formidable gales—that they had to contend. They had had experience of all these on the Atlantic. It was rather with unknown dangers which were in many respects greater than any which they had ever encountered elsewhere. There were dangers from fever-laden jungles, miasmatic swamps, savage Indians, clouds of pestiferous insects, that left them no rest day or night. There were dangers from famine and strange diseases that prostrated and carried off the strongest of their number in a few hours. There was danger from the breeze which, in that part of the world, blows toward the north for the greater part of the year and makes sailing against it, for the long distances the Spaniards had to travel, a matter of extreme difficulty. And there was, too, danger from the sea-current—now known as the Humboldt current—that greatly impeded progress and often imperiled the safety of vessels and crews. This immense and powerful current was as new to them as was the Gulf Stream to Columbus, and caused them as much anxiety and trouble. The philosophers of the time, ignorant of its cause, attributed it, as they did many other natural phenomena, to the influence of the *primum mobile*, but knew not what provision to make against its incessant action in the broad expanse where it was so dominant.

We could have wished to visit—or at least get a glimpse of—the islands of Gorgona and Gallo, but they were much nearer the coast than the course taken by our steamer. These, especially the latter, are famous landmarks in the earlier expeditions of Pizarro and his adventurous followers.

It was on this island, little more than a barren rock, that Pizarro announced to his timid and discouraged com-

panions in arms his determination to continue the prosecution of his enterprise after it had been pronounced by all to be a forlorn hope.

“Drawing his sword,” Montesinos tells us, “he traced a line with it on the sand from east to west, then, turning toward the south, ‘Friends and comrades!’ he said, ‘on that side are toil, hunger, nakedness, the drenching storm, desertion and death; on this side, ease and pleasure. There lies Peru with its riches; here Panama and its poverty. Choose, each man, what best becomes a brave Castilian. For my part I go to the south,’” and so saying, he stepped across the line. He was followed by his brave pilot Ruiz, a Greek cavalier named Pedro de Candia, and eleven others, who, Montesinos continues, “thus, in the face of difficulties unexampled in history, with death rather than riches for their reward, preferred it all to abandoning their honor, and stood firm by their leader as an example to all future ages.”¹

Commenting on this soul-stirring episode in the career of the intrepid conquistador, Prescott well interprets the sentiments of the reader in the following eloquent paragraph:—

“There is something striking to the imagination in the spectacle of these few brave spirits thus consecrating themselves to a daring enterprise, which seemed as far above their strength as any recorded in the fabulous annals of knight-errantry. A handful of men, without food, without clothing, almost without arms, without knowledge of the land to which they were bound, without vessel to transport them, were here left on a lonely rock on the ocean with the avowed purpose of carrying on a crusade against a powerful empire, staking their lives on its success. What is there in the legends of chivalry that surpasses it? This was the crisis in Pizarro’s fate. There are moments in the lives of men, which, as they are seized or neglected,

¹ *Anales del Peru*, Tom. I, p. 61, publicados por Victor M. Maurtua, del Instituto Historico del Peru, Madrid, 1906.

decide their future destiny. Had Pizarro faltered from his strong purpose, and yielded to the occasion, now so temptingly presented, for extricating himself and his broken band from their desperate position, his name would have been buried with his fortunes, and the conquest of Peru would have been left for other and more successful adventurers. But his constancy was equal to the occasion and his conduct here proved him competent to the perilous post he had assumed, and inspired others with a confidence in him which was the best assurance of success.”¹

About two days after leaving Panama, we crossed the equator. Neptune, however, and his retinue did not appear to baptize those who crossed the line for the first time. Many of the passengers had never been in the tropics before, and for them the passing from one hemisphere into another was an extraordinary event. But, although all carefully noted the exact moment when they entered the southern half of the world, I do not think many of them were so impressed by the fact as were Spix and Martius in the early part of the last century, when on their way to Brazil. “This moment,” they declared, “was the most solemn and sacred in our lives.” But there was a special reason for such profound emotion in their case. They were then drawing nigh to Brazil, the land where they immortalized themselves by their researches and explorations, which so greatly extended the domain of natural knowledge. In this moment of crossing the equinoctial line, “We saw,” they continue, “the longings of earlier years accomplished—and with pure joy and enthusiastic anticipation, we indulged in the foretaste of a new world so rich in the wonders of nature.”²

I must confess, however, that I experienced similar feelings when I found myself crossing the boundary that separates the northern from the southern half of our planet. I

¹ *The Conquest of Peru*, Book I, Chap. IV.

² *Travels in Brazil in the Years 1817-20*, Vol. I, p. 117, London, 1824.

had from my boyhood dreamed of just this moment and had for many long decades cherished the hope that I might one day have an opportunity of visiting the lands of the Incas and the Aymaras and of gazing on the sublime scenery of the Andes and the superb exhibitions of plant life on the Amazon and its tributaries. The dream was now about to be realized, and the longings of a lifetime were soon to be satisfied.

The crossing of the equinoctial brought with it not only a change in the earth's surface, but also a change in the aspect of the heavens. The moment we crossed the line, Polaris, that had been our guiding star in journeyings innumerable, dropped below the horizon and was not again seen until long months afterwards. New stars and new constellations replaced those we had left behind and made us feel that we had suddenly been made spectators of a new heaven and a new earth.

The spectacle afforded by the setting sun the evening we crossed the line was gorgeous beyond description. The western horizon was fringed with tenuous, flocculent clouds, which soon blazed with all the colors of the rainbow. Brilliant, almost blinding at first, they gradually assumed the subdued hues of early autumn leaves. There were delicate tints of green and gold, red and brown, purple and primrose. Anon, as the descending sun touched the ocean wave, multicolored, luminous rays shot forth fanwise and suffused the translucent azure of the celestial vault with wondrous jewel lights as of vaporized ruby and topaz and sapphire. Rarely, indeed, in our northern zones, outside the magic color displays of the Aurora Borealis, does one witness such splendor of rose and scarlet, such glowing of nacre and gleaming of opaline fire, as it was our privilege to behold on that memorable evening in the South Sea. The sun-god seemed loathe to depart from the world that he had illumined and beautified, for scarcely had he dropped below the ocean's edge, when he flashed through the skies, even to the zenith, swift coruscations as if to

show by this glorious pageantry that he was triumphant even in exile.¹

Never before was I so impressed by the solemnities of sea and sky, as in the equatorial Pacific; never before was I so fascinated by the witchery of the infinite, as when contemplating the deep, shoreless ocean and the blue, cloudless heavens in the favored clime of the Southern Cross. What tenderness of tint in the soft rose light of dawn, what caresses of color in the sunset's crimson glow! During the daytime what delicate color dances on the emerald waves, and what splendor of translucent azure in the firmament above! And at night, what sublime beauty in the starry canopy with its millions of suns in unfathomable space!

Here Nature seems to revel in the unveiled magnificence of her ever-varying moods. Whether one contemplates her when the breath of dawn sows with ripples the quicksilver sea, or when the ocean shifts color with each succeeding swell and exhibits transformations of tint for every form and motion of wave, or when the waters of the deep, under a dark sky, phosphoresce and sparkle with animated billows, or when the gathering gloom is thrilled by twinkling constellations overhead, she is ever an object of awe, of inexpressible loveliness beyond the power of poet or

¹The statement, frequently made, even by travelers in the tropics, that there is no twilight in the equatorial zone is quite erroneous. When Coleridge, in *The Rime of the Ancient Mariner*, sings

"The sun's rim dips; the stars rush out:
At one stride comes the dark;"

we make allowance for poetical license, but when a scientific explorer, like Crevaux tells us in his *Voyages dans l'Amérique du Sud*, p. 104, that *Le voile de la nuit va se lever presque aussi rapidement qu'un rideau de théâtre*—the veil of night rises almost as quickly as a drop-curtain—he not only exaggerates but misleads. It is true that at the equator, where the sun descends vertically instead of obliquely below the horizon as it does in temperate and polar zones, that the transition from day to night and vice versa is more rapid than it is with us in midsummer, but it is only about a third shorter than our twilight at the equinoxes.

painter to portray, beyond their power even fully to comprehend.

Old Xenophanes must have been enthralled by the magic spell of such bright blue skies, as one sees in the tropics, when he declared that the infinite blue is God. And Hermes must have been permeated with the wondrous, gladdening, vivifying rays of an equatorial sun when he asserted that "The sun is laughter; for it is he who maketh joyous the thoughts of men and gladdeneth the infinite world."

How often, while gazing at the multiform changes wrought on the face of the tranquil Pacific, when breathed upon by the gentlest of zephyrs, how often, when watching the ceaseless play of light and color in the curling wavelets and admiring the inexpressible beauty and luminosity of every swell and ripple, have I not recalled that exquisite picture of Æschylus—the many-twinkling smiles of Ocean

“πόντιων δὲ κυμάτων ἀνήριθμον γέλασμα.”

And how often, too, have I not heard ringing in my ears the words of Lafcadio Hearn's superb apostrophe to the sea:—

“Thou primordial Sea, the awfulness of whose antiquity hath stricken all mythology dumb; thou most wrinkled, living Sea, the millions of whose years outnumber the multitude of thy hoary motions;—thou omniform and most mysterious Sea, mother of the monsters and the gods,—whence thine eternal youth? Still do thy waters hold the infinite thrill of that Spirit which brooded over thy face in the beginning!—still is thy quickening breath an elixir unto them that flee to thee for life,—like the breath of young girls, like the breath of children, prescribed for the senescent by magicians of old,—prescribed unto weazened elders in the books of the Wizards.”¹

Aside from the marvel afforded by the magnificent sun-

¹ *Chita: A Memory of Lost Island*, p. 162, New York, 1889.

set just noted, there was another revelation of a different character awaiting most of the passengers on the boat, especially for those who had come from the north. They had fancied, on leaving their homes that they would have to endure intense heat in the tropics, particularly in the neighborhood of the equator. Pleasant, therefore, was their surprise when, the second day after leaving the Gulf of Panama, they found that the atmosphere, far from being hot and sweltering, was cool and refreshing. And so cool indeed was it after sunset here that the women called for their wraps, and after crossing the equinoctial, I saw many of them at nightfall using their furs and lap-robes. This seems incredible, but such is the tempering influence of the Humboldt current, that carries northward the glacial waters of antarctic seas, that the temperature of the Pacific, along the west coast of South America, is far lower than is ordinarily supposed, and much below the temperature of the ocean in corresponding latitudes in other parts of the world.¹

How different was the region of the equator, as we found it during this voyage, from what it was conceived to be by the philosophers of old! According to Aristotle and Pliny, whose teachings had defenders even among the learned men of Salamanca, who had been delegated to examine the plans of Columbus for a westward passage to India, the torrid or burning zone, at least that part of it directly under the equator, was uninhabitable and unproductive, and, by reason of the excessive heat which was supposed to prevail there, impassable.²

¹ Francisco de Xeres, the secretary of Francisco Pizarro, informs us that the Spaniards, while sailing in these waters on their way to Peru, "suffered great hardships from hunger and cold"—*pasando grandes trabajos, hambres y frios*. *Historiadores Primitivos de Indias*, Coleccion Dirigida é Ilustrada por D. Enrique de Vedia, Tom. II, p. 321, Madrid, 1906.

² The historian Acosta, who went to Peru in 1570, narrating his experience when crossing the equator, writes as follows: "Having read what Poets and Philosophers write of the burning zone I perswaded my selfe, that comming to the Equinoctiall, I should not indure the violent heate, but it fell out otherwise; for when I passed, which was when the sun was there for Zenith,

If the southern hemisphere was habitable, as Aristotle believed, it was forever inaccessible from the north temperate regions of the globe. "In this central region, where the sun runs his course, the earth," Pliny declares, "is burnt up as with fire." Fish and whales, it was averred, could not exist in the tropical ocean. Only marine salamanders, if there were such creatures, could find a home in its superheated waters.

And yet, strange coincidence! in the immediate vicinity of the equinoctial line, we saw a whale, one of those monsters of the deep that the poet Spenser has so felicitously described by a single adjective—"sea-shouldering." We saw also great schools of flying-fish, those strange representatives of the finny tribe, that would contest with the birds the domain of the atmosphere. The Spaniards call them *Golondrinas*—swallows—and their peculiar gliding motion in the air really does remind one of the flight of swallows. To us they seemed more like miniature aeroplanes, as they flitted hither and thither, skimming and scudding the waves in their effort to escape their pursuing enemy.

Their power of flight is due not to wings but to highly developed pectoral fins, which enable them to dart through the air for two hundred yards or more. But the most remarkable fact about their flight is that they do not flap their fins, as the bird does its wings, but warp them when they wish to change their direction, precisely as an aviator warps the planes of his flying machine. Aviators might

being entered into Aries, in the moneth of March, I felt so great cold, as I was forced to go into the sunne to warme me; what could I else do then, but laugh at Aristotles Meteors and his Philosophie seeing that in that place and at that season, whenas all should be scorched with heat, according to his rules, I, and all my companions were a colde?" Op. cit., Book II, Chap. IX.

The denial of the Aristotelian dogma that "the middle zone of the earth is so scorched by the sun as to be destitute of moisture and totally uninhabitable" was one of the grounds on which the charge of scepticism and atheism was preferred against Sir Walter Raleigh. And this, too, a century after the discovery of America!

do well to study the flight of these singular fishes, as well as the flight of birds, in their efforts to obtain success in the conquest of the air.

The evening before we landed at Guayaquil, we passed the little island of Santa Clara, also known as *La Amortajada*—the Enshrouded Woman¹—because of its fancied resemblance, when observed from a distance, and at the proper angle, to a corpse wrapped in a winding sheet. We first saw it under the subdued rays of the setting sun, and so striking was the resemblance to a shrouded figure that the appropriateness of the name *La Amortajada* was at once manifest.

As first seen, it was, on account of the color and barrenness of the island, almost snow-white, but, as the sun sank into the ocean, it was tinged with a soft crimson hue, which gradually shaded into a lovely seal-brown. Just as the figure, as we thought, was about to be veiled in darkness, a brilliant light flashed from its bosom, to the surprise of every beholder. It came from the lighthouse stationed on the island, and gave to *La Amortajada*, from where we were viewing it, the appearance of holding in her hands some object of strange refulgence. Memory then wafted me from Santa Clara dead to Santa Clara living, when, in her cloistered home in Assisi, long centuries ago, she put to flight the infidel, as he was about to invade the sacred precincts of her convent home. The Saracens had made themselves masters of Assisi and were on the point of forcing an entrance into the cloister occupied by the saint and the members of her religious family. She was then confined to bed by illness, but no sooner was she apprised of the imminent danger to which they were all exposed, than, endowed with the faith that moves mountains, she had the monstrance containing the consecrated host brought to her. Then she bade her frightened nuns to carry her to the door that was on the point of yielding

¹ It is likewise called *Isla del Muerto*—Dead Man's Island—from its resemblance to a gigantic floating corpse.

to the assault of the infuriated mob. There, holding aloft the sacred receptacle of the Blessed Eucharist, she said, "Do not, O Lord, deliver to beasts the souls confiding in Thee, and preserve Thy servants whom Thou hast redeemed by Thy precious blood." This prayer being finished, a voice was heard, saying—"I will always protect you." "So startled were the Saracens," the saint's biographer continues, "that they at once betook themselves to flight, while those who had already mounted the walls, were stricken with blindness and fell headlong to the ground."¹

Without inquiring why Pizarro, who discovered the island, called it Santa Clara, its name seemed to me, under the circumstances just recounted, the most suitable that could have been selected. The conquistadores were often singularly happy in the names they gave the places they discovered, but never more so than in the case of this little island, dedicated to the sainted virgin of Umbria.

Before the arrival of the Spaniards, the island, which was inhabited, had been used by the Indians of the neighboring island of Puna as a place of burial. By them it was regarded as a sacred place, and at stated times they here offered great sacrifices to certain stone idols having heads, human in form, but sharply pointed. It was here, too, that the Spaniards, judging by the many objects of gold, silver and rich textile fabrics which they found, learned that they were near the land of their long and eager quest—the famed land of golden Peru.

After leaving Santa Clara, our steamer was headed for the island of Puna, near the mouth of the river Guayas. This island also, as well as those of Gallo, Gorgona and Santa Clara, occupies an important page in the annals of the Peruvian conquest. It was here that Pizarro waited several months for reinforcements from Panama, before starting on his famous expedition into the interior of Peru. It was here that he had his first encounters with the subjects of the Incas. It was here, when his position

¹ *Breviarum Romanum*, for Aug. 12th.

had become dangerous and almost untenable, that he was joined by Hernando de Soto, the renowned conquistador, who afterwards immortalized himself by the discovery of the Mississippi, which was to be both his grave and his monument. By the timely arrival of De Soto and his gallant band, Pizarro was able to extricate himself from his perilous situation and to prosecute that memorable campaign, which so shortly afterwards ended in the capture and death of Atahualpa. And it was here, some historians assert, that the chaplain of Pizarro's army, the much abused Fray Vicente de Valverde, the first bishop of Peru, lost his life at the hands of the warlike Indians to whom he had come to preach the gospel of peace.¹

From Puna, near which we anchored for some hours, waiting for the visit of the health officers, who came after considerable delay, we proceeded up the river to Ecuador's chief seaport, Guayaquil. From these officials we learned of an attempt that had been made the day before, to assassinate General Alfaro, the president of the republic. They said that the whole country had been placed under martial law, and that a revolution was inevitable. Many of the passengers, mostly Ecuadorians, bound for Quito, were so alarmed by this information, that they did not consider it safe to disembark, and accordingly remained on the vessel and went to Lima to await there the cessation of hostilities. Several of us, however, who had passed through similar uprisings in other parts of South America, did not regard the situation as sufficiently serious to justify an abandonment of our plans, and we, accordingly pre-

¹ Cf. *Tesoros Verdaderos de las Yndias en la Historia de la Gran Provincia de San Juan Bautista del Peru, de la Orden de Predicadores* por el Maestro F. G. Juan Melendez, Tom. I, Lib. II, Cap. VII, Roma, 1681, 3 vols.

Fray Reginaldo de Lizarraga, in his interesting *Descripcion y Poblacion de las Indias*, which was written while the death of Valverde was yet fresh in the memory of the inhabitants of Guayaquil, although it remained unpublished until 1907, tells us that the bishop was not only massacred but eaten by the Indians, and that in his day the neighboring tribes reproached the authors of the prelate's death with being bishop-eaters—*perros lampuna*. *Rivista Historica*, p. 280, Lima, 1907.

pared to continue our journey to Quito, the capital of Ecuador.

The scenery along the Guayas is like that which characterizes the Magdalena, the Orinoco and other tropical rivers. The vegetation is rank and profuse. The oozy soil, near the banks of the river, is covered with tall grasses, reeds and heliconias, while in the higher grounds, further afield, one discerns giant trees, draped with a close network of those creepers and parasites that are so conspicuous in every tropical forest.

But the Cordilleras, as we saw them from the deck of our steamer, on the broad waters of the Guayas! They were stupendous, overpowering in their magnitude and majesty. Never before, in any part of the world, had I beheld so imposing an exhibition of mountain grandeur. The colossal peaks, rising through successive masses of vari-colored, cirro-stratus and cirro-cumulus clouds, which changed their form and position with every passing breeze, seemed literally to pierce the sky. I had marveled at similar magnifying effects produced by shifting clouds and the incessant variations in light and shade and perspective, when approaching the Coast Range, near La Guayra, but, although the optical illusions observed there were extraordinary, they were in no wise comparable with those witnessed as we neared the port of Guayaquil.

In the foreground, extending seemingly to the water's edge, were the foothills; although they were in reality not more than a few thousand feet high at most, yet their summits appeared to be nearer the blue empyrean than does the icy crown of Mount Blanc when viewed from the vale of Chamouni. Only the magic pen of Olmedo, the gifted poet of Guayaquil, has ever adequately put in words the overpowering impression made on the beholder, when he first fixes his astonished gaze on

“Los Andes . . . las enormes estupendas
Moles, sentadas sobre bases de oro,

ALONG THE ANDES AND DOWN THE AMAZON

Que ven las tempestades a su planta
Brillar, rugir, romperse, disiparse.”¹

But our contemplation of the sublime spectacle before us was suddenly interrupted by the sharp, shrill whistle of the steamer, and the discordant clanking of the anchor-chain passing through the hawse-pipe. We had happily completed the first stadium of our trans-equatorial voyage and were now safely moored in the placid waters of the broad harbor of Guayaquil.

¹ “The Andes—the enormous, stupendous masses, set on foundations of gold,

Which behold the tempests at their feet gleam, roar, disperse, vanish.”

CHAPTER III

FROM SULTRY COASTLAND TO CHILLY PARAMO

Our first view of Guayaquil was, in its way, almost as impressive as our first view of the Andes from the island of Puna. As seen under the subdued rays of the rising sun, it was a vision of oriental splendor, not unlike a distant view of Cairo or Damascus. The large, white structures along the Guayas and the imposing churches, also white, whose towers, by a peculiar optical illusion, appeared much loftier than they really were, seemed to be like modern Athens, wrought of Pentelican marble. The city, as thus seen, was a fit companion picture to that of the cloud-piercing Cordilleras at whose foot it so gracefully reposed, and we were quite disposed to exclaim with the Guayaquil poet, Padre Aguirre:

“Guayaquil, ciudad hermosa,
De la America guirnalda,
De tierra bella esmeralda,
De la mar perla preciosa.”¹

In the harbor were several steamers and sailing vessels from many parts of the world, but the most picturesque features were the peculiar craft, everywhere visible, of the Indians and mestizos. These were balsas, of the same type as those that so surprised Pizarro's pilot, Ruiz, and his companions on their first arrival in these parts, and certain kinds of rafts that serve the same purpose as a Chinese house-boat.² All these were loaded with fruits

¹ “Guayaquil, city beautiful, America's garland, beauteous emerald of earth, precious pearl of the sea.”

² The historian Zarate thus described these balsas: “They are made of

and other products of the rich lands bordering the Guayas and its affluents. And so great was the abundance of these products offered for sale that it was difficult to imagine where purchasers could be found for half of them. There were bananas of many varieties, juicy pineapples of rarest fragrance, papayas resembling muskmelons in size and appearance, and countless other fruits grateful to the palate, that are found only in the tropics.

The vision beautiful vanishes as soon as one disembarks. The marble palaces prove to be merely white-washed structures of plastered bamboo, and the edifices that seemed so majestic from a distance dwindle into rude shops and unpretentious shacks. Outside of the Malecon that parallels the course of the river, there are few streets to claim the visitor's attention, and still fewer where he will care to promenade a second time. The Cathedral, some of the churches, and the hospital will repay a visit, as will some of the larger business houses along the Malecon. In most respects Guayaquil is like all other Spanish-American cities. It is laid out in the same gridiron fashion, and the manners and customs of its inhabitants are essentially the same as those of the inhabitants of other parts of Latin America.

The peculiar bamboo houses are admirably adapted to the soft low ground—only a few feet above the water at high tide—on which the city is built, and are as nearly earthquake-proof as are our steel structures of the north. Some of them are highly ornate in appearance, and all of them are specially designed for the comfort of those who live where summer never dies.

long light poles fastened across two other poles. Those on the top are always an odd number, generally five and sometimes seven or nine, where the rower sits, the center poles being longer than the others. The shape of the balsa is like that of a hand stretched out, with the length of the fingers diminishing from the center. On the top some boards are fixed to prevent the men from getting wet. There are balsas which will hold fifty men and three horses. They are navigated with a sail and oars." *Historia del Deseubrimiento y Conquista del Peru*, Lib. I, Cap. VI.

Some months before going to Guayaquil, I had met in Venezuela a commercial agent from New York who had spent twenty years traveling through the various countries of South America, and he said to me on parting: "Whatever you do, keep away from Guayaquil. It is the worst pest-hole in creation. A foreigner takes his life in his hands by going there and a sojourn of only a few days in it is sure to be followed by an attack of yellow fever or bubonic plague. If you should be fortunate enough to escape these, you are sure to encounter a revolution or an earthquake."

This was a gloomy forecast, but we had become quite accustomed to such prophets of evil and determined to continue our journey, as it had been planned, despite all that might be said to dissuade us from our purpose.

We had, too, become quite accustomed to revolutions, as we had passed through three of them during the preceding three months and had suffered nothing in person or property by such experiences. In fact, we came to regard them like unto the wars of the Saxon Heptarchy of which Milton writes, "They are not more worthy of being recorded than the skirmishes of crows and kites."

As to earthquakes, those of a destructive character, even in the regions of greatest seismic disturbances in South America, are few in number, and are no more to be apprehended by the traveler than are those of Sicily or Calabria. And no one, I think, would be deterred from visiting these interesting countries through fear of a possible earthquake during his sojourn there. I had frequently visited various parts of the world where earth tremors are most violent and had never been even remotely exposed to danger from instability of the earth's surface. Indeed, I had often wished to experience the sensation caused by a severe shock, and to have an opportunity of observing the effects due to vibration of the earth's crust. In such a frame of mind I should then have

welcomed a genuine earthquake, rather than have tried to escape it.

As our good fortune would have it, we landed in Guayaquil in July, the coolest and most salubrious month of the year. At no time did we suffer from the heat, even when under the rays of the midday sun. And more surprising still, after all we had been told, we were never annoyed by mosquitoes or other insects. We never once had occasion to use a mosquito bar in our bedrooms, and our hotel was as clean and comfortable as one could desire. Of course, we were in Guayaquil during the most favorable part of the year. There is no doubt that during most of the year, as conditions were at the time of our visit, the traveler was more or less exposed to yellow fever. For generations it had been practically endemic and had been specially malignant in the case of foreigners, who were not immune. As to the native inhabitants, they seemed to have little fear of the disease, and ordinarily but few victims were claimed from their ranks. Most of them being immune, they were slow to awake to the necessity of doing anything to stamp out the plague, even after they had learned of the signal success of Colonel Gorgas in the work of sanitation in Panama.

But what the citizens as a whole had so long been indifferent about, the merchants were at last forced to take into account. The quarantine regulations along the Pacific coast—especially at Panama—were becoming so strict, that the municipal authorities of Guayaquil, as well as the federal government at Quito, were compelled to adopt the same sanitary measures that had eliminated all infectious diseases from the Canal Zone, and had made this strip of land as salubrious as it had before been pestiferous.

Guayaquil counts about forty thousand inhabitants, and is practically the only port of Ecuador, for Esmeraldas, San Lorenzo and Rio Verde are almost negligible as ports of call for foreign commerce. It is through the port of

Guayaquil that practically all traffic passes to and from the capital of the republic and the other cities of Ecuador. It was, therefore, imperative that the nation's leading port of entry should have removed from it the stigma which had so long attached to it of being a place where pestilence stalked through the streets every day in the year.

Knowing the cause of yellow fever and malaria one perceives no more reason why it should exist in Guayaquil than in New York or Boston. Both diseases can be eradicated here as well as in Havana or Colon, and their recurrence can be prevented, if the means now available are employed.

"From our experience in Cuba," writes Colonel Gorgas, "several useful lessons may be deduced. We find that the native in the tropics, with the same sanitary precautions that are taken in the temperate zones, can be just as healthy and have just as small a death rate as the inhabitants of the temperate zone; that to bring this about no elaborate machinery of any kind is needed; that it can be attained by any community, no matter how poor, if they are willing to spend sufficient labor in cleaning and observing well-known rules with regard to disease; that the North-American Anglo-Saxon can lead just as healthy a life and just as long in the tropics as in the United States."¹

At the conclusion of his report Colonel Gorgas declares: "I look forward in the future to a time when yellow fever will have entirely disappeared as a disease to which mankind is subject, for I believe that when the yellow fever parasite has once become extinct it can no more return than the dodo or other species of animal that has disappeared from the earth."

What is here said of yellow fever may likewise be asserted of smallpox, bubonic plague² and other infectious

¹ *Civil Report of Brigadier-General Leonard Wood, Military Governor of Cuba. January 1st to May 20th, 1902, Vol. I, Part III. Report of Colonel Gorgas.*

² If rats, which are now recognized as the most active agents in the spread of bubonic plague, are still as numerous in Guayaquil as they were two

diseases. They can be eliminated from Guayaquil as well as from other places where they had long been epidemic. The difficulties in the way of putting Guayaquil in a thoroughly sanitary condition are far less than they were in the Canal Zone and the measures to be adopted will be much less expensive. The first step towards the sanitation of the city has already been taken by acting in coöperation with the quarantine staff of Panama, and, if the present programme be carried out, it is a question of only a short time until Ecuador's leading entrepot shall be as sanitary as any port on our Gulf coast. Then, and not until then, will Guayaquil be able to take advantage of her splendid natural position as a great commercial emporium, and be prepared, especially after the opening of the Panama Canal, for a development of her trade relations with other countries that will far exceed the fondest dreams of her most ardent patriots.

Guayaquil had a special interest for me because founded by two of the most famous of the conquistadores, Bellacazar and Orellana. The former had located it in 1535, a year after the foundation of Quito, at the mouth of the Babacoyas River, a tributary of the Guayas. In 1537 it was, by order of Francisco Pizarro, transferred by Orellana to the foot of the Cerro of Santa Ana, just adjoining the site it now occupies. After Quito and Porto Viejo,

centuries ago, the first step necessary towards the elimination of this dread disease will be a vigorous campaign against those dangerous rodents. Jorge Juan and Antonio Ullao in their description of this place write as follows: "Another terrible inconvenience attending the houses here, are the numbers of *pericotes*, or rats, every building being so infested with them, that when night comes on they quit their holes and make such a noise in running along the ceiling and in clambering up and down the sides of the rooms and canopies of the beds, as to disturb persons not accustomed to them. They are so little afraid of the human species, that, if a candle be set down without being in a lantern, they immediately carry it off; but as this might be attended with the most melancholy consequences, care is taken that their imprudence is seldom put to the trial, tho they are remarkably vigilant in taking advantage of the least neglect." Op. cit., Book IV, Chap. VI.

founded a few months after Quito, Guayaquil is the oldest city in Ecuador.¹

From the beginning it was a place of recognized importance. For a long time it was specially noted for its dock and ship yards. Many of the largest ships that plowed the Pacific during colonial times were constructed at this port. It was because of this fact, no less than on account of its size and wealth, that it was frequently visited and plundered by pirates and buccaneers, Dutch and French as well as English. Dampier called here in 1684 but, although he declared he did not enter the town, Sr. Roca, a Guayaquil writer, avers that he sacked and burnt it. It belonged to the viceroyalty of Peru until Bolivar, in 1824 annexed it to the first republic of Colombia, then composed of the present republics of Venezuela, Colombia and Ecuador.²

On account of the inflammable character of the buildings, the city has frequently suffered from disastrous conflagrations. So great, indeed, is the danger from fire and so inadequate is the protection against it that the rate of insurance here is almost prohibitive. The lack of appliances for controlling fire, as well as the lack of proper sanitation, have tended, probably more than anything else, to retard the progress and prosperity of the city, but these two drawbacks are finally in a fair way towards elimination, and Guayaquil, humanly speaking, has a brilliant future before it.

After spending two delightful days in and around Guayaquil, I prepared to continue my journey to Quito, the capital of the republic. Until a few years before my arrival in the country, this journey was long and arduous and few had the courage to undertake it, unless it was

¹ Strange as it may appear, Guayaquil, although the westernmost city of South America, is on the same meridian as the easternmost point of Florida—three thousand miles east of San Francisco.

² The name Ecuador, the Spanish for Equator, was given to the republic because of its location on the equinoctial line. It dates only from the time of its separation from Colombia in 1830.

absolutely necessary. The road, for the greater part of the distance up the western slope of the Andes, was but a mere mountain trail—bad enough in the dry season, but during the rainy season nearly or quite impassable. Nevertheless, this was the road that had served the purpose of traffic between the coast and the capital during nearly four centuries. There was, as a consequence, but little communication between Guayaquil and the interior of the country, and there were many men whose homes were on the plateau, prominent in business and in public life, who had never seen the ocean.

To traverse the distance from Guayaquil to Quito—two hundred and sixty miles—required about ten days when the weather was favorable, and an indefinite time during the rainy season. The journey from tidewater to the capital of Colombia, before the recent completion of the railroad from the Magdalena to the capital, was trying enough, but the greater part of it could be made on river boats. Only two or three days on horseback were necessary to make the trip from Honda to Bogotá, and the inns on the way, while not all that could be desired, were endurable. But the old *Camino real*, connecting the coast with the plateau of Ecuador, offered no comforts or conveniences for the traveler. For a greater part of the distance, the *tambos* where he passed the night were wretched huts which were filthy beyond description. Even in the larger towns on the highlands, the inns were unworthy of the name. The traveler was, indeed, fortunate if he arrived at the end of his journey alive and well. We often wondered, while traveling in Colombia, how it was possible for such a large and cultured capital as Bogotá to exist in the heart of the Cordilleras, when it had been for centuries so completely cut off from the rest of the world. But the wonder is intensified in the case of Quito, whose isolation was far more complete.

The first one to ameliorate this extraordinary condition of affairs was Garcia Moreno, who was the president of

Ecuador at the time of his tragic death in 1875. This he did by the construction of a splendid highway from Quito to Sibambe, which, had he lived, he would have completed to Guayaquil.

This illustrious and enterprising ruler was also the first to begin the construction of the railroad that now connects the capital with the Guayas River. Had he lived, he would undoubtedly have had the glory of seeing it completed under his administration. As it was, little of consequence was accomplished during the three decades following the great statesman's death. Lack of credit at home and abroad, internal dissension and internecine strife prevented any successful attempt to continue the gigantic undertaking until a generation later. "From 1873 to 1894," writes Major John A. Harman, chief engineer of the Guayaquil and Quito Railway Company, "no less than twelve formal contracts were made between the government and private firms or parties, both Ecuadorian and foreign, for the construction of a railway which should connect the coast with the interior plateau; and in addition, the government employed engineers and caused many extensive and expensive surveys to be made for its own account, especially between Chimbo and Sibambe; but every effort resulted in failure and financial disaster until 1898, when the government, during the administration of General Eloy Alfaro, entered into a contract with Mr. Archer Harman of New York for the rehabilitation of the old railway and ferry, and for the construction of the line from Chimbo to Quito."

Finally, after untold difficulties, engineering, financial and political, had been surmounted, the road was completed and the first train entered Quito June 28, 1908, two generations after it had been first projected, and thirty-seven years after it had been begun under Garcia Moreno. The total cost of the road was thirty-eight million sucres—nineteen million dollars in gold—an average cost of seventy-three thousand dollars a mile.

Had I not traveled across the Cordilleras of Colombia on mule-back, I should, in spite of all its forbidding features, have elected the old *Camino real* in preference to the railroad, to go to Quito. But having familiarized myself with the old-time methods of travel and become acquainted with the manners and customs of the inhabitants along the primitive roads of the interior, there was nothing to be gained by the long and irksome ride over the old trail from the lowlands to the Andean plateau. I, accordingly, arranged to take the train from Duran—a small town across the river from Guayaquil—where is the southern terminus of the railway.

Immediately after I had purchased my ticket for Quito, and before stepping on the ferry-boat that was to take me to Duran, I heard a military officer tell the ticket agent in a low tone of voice not to sell tickets to any one, unless he could show a passport duly signed by the chief of police. This order seemed ominous, although, at the moment, I did not grasp its full significance. I became aware of it, however, before my arrival at Quito and in a way that was far from agreeable.

I had heard, before disembarking at Guayaquil, that the day before our arrival at that place an attempt had been made to assassinate the president of the republic, but had paid no attention to the report. I noticed, however, that several Ecuadorians who were bound for Quito, suddenly changed their itinerary and remained on the steamer. I subsequently learned that they considered it safer to go to Lima, until the storm should blow over, than go to Quito. I had reason later to suspect that some of these men were in sympathy with the would-be assassins, and that they were greatly disappointed at the miscarriage of plans in which they were so deeply interested. They were revolutionists returning from abroad and had been counting on a change of government, which they expected immediately to follow the death of the chief executive. Alfaro, however, escaped the machinations of his enemies,

and during my stay in Guayaquil the police were busy in arresting the conspirators, and in ferreting out their friends and sympathizers. Marshal law was immediately proclaimed anew—it had been in force throughout the republic during the preceding three months in consequence of other attempts against the administration—and no one was permitted to travel in any part of the country, unless provided with a special passport from the chief of police. All travelers were treated as suspects and were kept under constant surveillance. At first, I was unaware of what might be in store for me and continued my journey as if nothing had happened.

About an hour after leaving Guayaquil, I was comfortably seated in a car of the American type, attached to a mixed freight and passenger train that was bound for Riobamba—one of the most important towns of the plateau. Among the passengers were several Americans, most of them employés on the railroad, and two German naturalists, who were starting on a tour of exploration among the Cordilleras. Besides these passengers, there was another, a young American who had been in business in Guayaquil, and who had recently established there a steam laundry of the most approved American type. The venture had proved successful and he was now starting out to extend his business on the plateau and especially in Quito.

“Are you going to establish other steam laundries in the interior?” I asked. His answer amazed me. “No,” he said, “fuel costs too much on the plateau. Besides, it is not necessary. What I purpose doing, is to make arrangements to have the people of Quito and of the larger towns along the railway, send their soiled linen to me at Guayaquil. I have calculated that I can thus do their laundry work better, more expeditiously and more economically—including carriage to and from Guayaquil, than they can have it done at home. You see, the methods of the washerwomen of Ecuador are very primitive and destructive, and are anything but satisfactory. Besides, during the rainy

season, one may be obliged to wait for weeks for the return of one's linen, for the laundresses have no means of drying it except in the sun, which, during the rainy season, may not appear sufficiently long for weeks at a time."

I then recalled my experience with the Indian washer-woman on the Meta, when I had to take my linen while it was still wet and unironed, although it had been in her hands for more than a week. And I could then sympathize with the frequent disappointments and tribulations, during the rainy season, of the spruce Quitonian hidalgos, who so affect immaculate, well-laundered shirt bosoms whenever they appear in public.

The two German *Naturforschern* were thoughtful, energetic young men who displayed the greatest enthusiasm in their work and seemed determined to keep up the splendid scientific prestige established by their illustrious countryman, Alexander von Humboldt. Truth to tell, it is to the learned and energetic sons of the *Vaterland* that we are indebted for most of our authentic information respecting the physical condition of Ecuador. Three of these, Reiss, Stübel and Wolf, have especially signalized themselves by their researches in the geology and mineralogy of the country and to them more than to all others, we owe most of the precious data we now possess regarding the mountains and volcanoes of Ecuador. The first two devoted four years to their explorations among the Cordilleras of Ecuador, and many more in studying the mountains and antiquities of Colombia and Peru, while the latter gave twenty years of unremitting work to Ecuador alone. His masterly *Geografía y Geología del Ecuador* is a monument of careful work and conscientious observation and is by far the best authority on the subject we now possess, while the *Reisen in Süd-America* by Reiss and Stübel, especially the part entitled *Das Hochgebirge der Republik Ecuador*, is a classic of its kind, and a mine of accurate information regarding the wonderful mountain system of which it treats. One can safely say that no more thorough

or conscientious work has yet appeared on the subject, and it is likely to remain the final word on many of the questions to which the world of science has long been waiting an answer.¹

The first fifty miles of the railroad passes over a level plain of remarkable fertility. Where the land has been cleared, one finds large *cacaotales* and sugar-cane plantations besides many extensive tracts devoted to the cultivation of rice. The soil for rice is here as favorable as any in China or India, and rice should eventually become one of the greatest staples of the republic. For a long time but little cane was cultivated, and that was chiefly for the manufacture of aguardiente. Now, however, there are several extensive plantations in the lowlands provided with *ingenios*—sugar-mills—of the most approved design and efficiency, and, in addition to the sugar furnished for home consumption, there is a constantly increasing output available for exportation. The sugar industry, however, is yet in its infancy. There are here vast tracts of the best cane land in the world awaiting the advent of the capital necessary for its proper development. When that is forthcoming, the sugar industry of Ecuador should prove one of the most flourishing in the republic and one of its chief sources of revenue.

Thus far the most valuable and abundant agricultural product of the country, the one that for decades past has served as a barometer of the nation's commercial standing, has been cacao—the prized *Theobroma* of Linnæus—which supplies the chocolate of commerce. Notwithstanding the claims of Mexico and Venezuela to the contrary, the people of Ecuador maintain that their cacao is the best in the world. There is certainly a great demand for it in foreign markets, and the demand is constantly increasing.

¹ Mention should also be made of the recent work of Dr. Hans Meyer, entitled *In den Hoch-Anden von Ecuador, mit Bilder-Atlas*, Berlin, 1907. It is the most interesting and most authoritative work on the glaciology of the Ecuadorian Andes that has yet appeared.

But, as in the case of sugar-cane, only a small fraction of the land, so admirably adapted for the production of cacao, is actually under cultivation. It, too, is awaiting the advent of capital, and when this arrives, Ecuador will have in its *cacaotales* a far more valuable asset than it possesses to-day.

The Ecuadorian cacao is exported in large quantities and its uses are daily becoming more varied and extensive. How differently it is now regarded from what it was by Benzoni, when he visited the New World, shortly after its discovery! In his estimation cacao was fit only for pigs. The historian, Acosta, does not seem to have had a much higher opinion of the Indian beverage. "The chief use of this Cacao," he writes, "is in a drinke which they call Chocolate, whereof they make great accompt in that country, foolishly, and without reason, for it is loathsome to such as are not acquainted with it, having a skimme or froth that is very unpleasant to taste, if they be not very well conceited thereof."¹

In marked contrast with these views is that now entertained of cacao by countless thousands in every part of the civilized world. With many it is as a "lucent syrup, tinct with cinnamon," or, as Linnæus named it, it is a veritable *Theobroma*—food of the gods. Everywhere it is recognized as one of our most wholesome and popular beverages, and in some places it is rapidly replacing tea and coffee. According to the Bureau of Statistics, the cacao importations into the United States alone now average more than a million dollars a month, and the amount required to meet the ever-increasing demand is daily becoming greater. It is certainly a remarkable fact that the value of the cacao imported into the United States has more than quadrupled during the last decade, while that of coffee has actually decreased during this period, and that of tea has increased only about ten per cent.

¹ *The Natural and Moral History of the Indies*, translated by Edward Grimston, 1604, Book IV, Chap. XXII, printed for the Hakluyt Society, 1880.



PEON'S HOME IN THE TROPICAL BELT OF ECUADOR.



INDIAN VILLAGE IN THE HIGHLANDS OF ECUADOR. GRINDING MEAL.



Most of the habitations of the natives in the lowlands are of the most primitive character. Like the dwellings of the people along the Orinoco and the Meta, they are little more than thatched sheds, designed to protect their inmates from sun and rain. There is, however, one marked difference. The houses in the Orinoco basin are of but one story, while those in the valleys of the Guayas and the Yaguachi have two stories. This is rendered necessary by the inundation during the rainy season, when the land is flooded to a depth of several feet, and the country presents the appearance of a vast inland sea. The dwellings of the people then resemble those occupied by the Indians of Lake Maracaibo,¹ or those of the Lake Dwellers of prehistoric Switzerland.

The railroad, after it begins to wind its way up the lofty steeps of the Cordilleras, is essentially the same as other mountain railways. It is remarkable, however, for its steep grades—being in some sections almost six per cent.—and for its sharp curves. In some places, owing to the depth of the narrow gorges through which the track passes, and the precipitous heights which the locomotive had to scale, the engineers were obliged to have recourse to switchbacks, in order to enable the engine to lift the train up the dizzy declivity of the mountain while progressing in a horizontal direction but a very short distance.

The construction of this part of the road presented many and apparently insuperable difficulties and involved the solution of several new problems in railway engineering. Indeed, there were many engineers who declared that it was impossible to build a road under the conditions required, and insisted that the attempt would result in failure and in national bankruptcy.

Great and daring as have been the many feats of engi-

¹ It was because the Indian village of Maracaibo reminded him of Venice, that Vespuccius, its discoverer, called it Venezuela—little Venice—whence the designation of the republic of that name.

neering which have distinguished railway construction in the United States, we have nothing in our country that made so many demands on skill and courage and pertinacity as did the stretch of road from Chimbo to the crest of the Andes. Here, within the short distance of sixteen leagues, the train is lifted up a sheer vertical height of two miles—from the sultry lowlands to the chilly paramo—from the foot to the shoulder of giant Chimborazo.

Traversing this short distance is like going from the equatorial to the Arctic regions. One sees defiling before him in rapid succession the fauna and flora of every zone, and notices a corresponding change in the appearance and dwellings of the inhabitants. In the lowlands the houses are thatched sheds, in the high plateaus they are structures of adobe or stone, designed to protect their inmates from the frigid blasts of the snow-capped Andes.

The inhabitants of the Andean plateau may, in the words of Gomara, be described as “paynefull men who tyll the grounde diligently wherein they take great pleasure: and haule therefore great plentie of breade of Maizium.” They are also “wytty and of gentyl behavoure. Cunnynge also in artes, faythful in promes, and of manners not greatly to be discommended.” I was not, however, able to verify his distinction between *serranos*—mountaineers—and the people of the lowlands of whom he writes as follows:

“Among them there is this dyfference, that such as lyve in the mountaynes are whyte and for the most parte lyke unto the men of owre regions. But they that dwell abowt the ryver (as though they tooke theyr coloure thereof) are blackysshe or purple of the coloure of fine iren or steele. This also chaunceth to many of them, that theyr fiete and legges are lyke the legs and fiete of the foule cauled the oystereche.”¹

It was here that we came across the first llamas that we

¹ *The first Three English Books on America*, translated by Richard Eden, and edited by Edward Arber. P. 343-344, London, 1895.

saw in South America. These were the Peruvian sheep that so elicited the admiration of the Spaniards on their arrival in Peru. Of these interesting and useful animals the author just quoted observes:

“There are sheepe of suche byggenesse that they compare them to younge camels or asses as sum say. Their woolle is very fine: and nearest unto the fynenesse of sylke. They use them insteade of horses.”¹

Useful as they are, however, there are comparatively few llamas in Ecuador. The majority of the people seem to prefer horses, mules, or burros, and as a consequence, the raising of llamas has been greatly neglected. The favorite habitat of these “Indian sheep”—*ovejas y carneros del Peru*—as the Spaniards also called them, is Peru and Bolivia, where they are found in immense numbers.

At all the stations at which we stopped *en route*, we found a large number of women, who had eatables for sale. In the lowlands we were offered fruits of every variety at a trifling price. On the plateau, in lieu of fruits, there was a liberal supply of roast chicken, hard-boiled eggs, and *Choclo*, the Quichua word for ears of boiled green maize. As the Indians prepared it, we found it as palatable as it is nutritious, and judging by the demand for it among the passengers, it is a most popular article of food in Ecuador. One bright, young Indian woman disposed of several basketfuls in a few minutes, and her purchasers were by no means confined to the natives of the country. In marked contrast with the low prices of fruits in the coast lands, were the high prices for provisions on the plateau. Eggs sold for six cents a piece and a roast chicken brought its lucky owner a dollar, the price that would be asked for it in a Paris restaurant. We were, however, glad to get at any price, something to eat; for we were hungry, and, our train being behind time, we foresaw that we should not be able to reach Riobamba until long after nightfall.

And we were cold, very cold. We were then passing

¹ Ibid.

over the *arenal*, that bleak, sandy plain at the base of Chimborazo about which so much has been said and written by travelers. Coming in such a short time from the steaming lowlands to the dry and frigid paramo we felt keenly the great difference of temperature. Besides, we had been in the heated lands of the tropics for months previously and had become sensitive to the slightest changes of the thermometer. The sudden change, then, from the home of the royal and the cocoa palm to the desolate region of ichu grass was like an immediate transfer from the land of perennial summer to the rigorous latitude of the Arctic circle.

And yet we were less than two degrees from the equator. But we were two miles above the Pacific, ice was forming on the surface of the little rivulet that was starting seawards, and there was a sharp, piercing wind that penetrated to the marrow of our bones. At times the boreal blast changed into a gale and enveloped us in clouds of fine dust and sand. It was then like being caught in a Nevada sand-cloud in midwinter.

What added to our discomfort and rendered us helpless against the elements, was the fact that our car had no glass windows so that we could shield ourselves against the wind by closing them. There were only slat shutters which gave wind and sand almost as free a sweep through the car as they had outside. When we inquired the reason for the absence of window panes, we were informed that it was on account of the falling stones in the deep gorges through which we had passed in ascending the mountain. Glass had been used, it seems, for a while, but there had been so many cases of breakage from falling stones that, in order to lessen the danger to the passengers, its use was discontinued.¹ We had then, *nolens volens*, to

¹ According to information recently received, all passenger coaches, at least those used on the uplands, are now provided with suitable windows for the protection of passengers. When connection by rail shall have been made with the coal fields, that are about forty miles from the main line, some provision, it is hoped, will be made for heating the cars while passing over

sit and shiver for several hours, at the end of which we were half frozen and impregnated with sand and volcanic dust. It was fortunate for us—I mean my American and German companions and myself—that we had heavy overcoats, or we should have felt more keenly the chilly blasts and the enormous apparent change in temperature since our departure from the lowlands. But our experience with the frost and wind of the elevated region—with

“The wind that sings to himself as he makes stride
Lonely and terrible on the Andean height,”

was not something unusual. It was the experience of most travelers since the time of the conquest.

The Italian explorer, Osculati, who visited these parts sixty years ago, declares that the wind was so strong and the cold so great that for a while he was unable to proceed on his journey.¹

But to realize how terrible have sometimes been the sufferings of those who have crossed the Cordillera in the neighborhood of Chimborazo, we have but to read of the accounts of the campaigns of the conquistadores in this cold and desolate tableland, especially of that of Pedro de Alvarado on his way from the coast to Riobamba. As a story of human endurance amid unheard-of trials, and of protracted agony of body and mind, it is almost unique in the annals of adventure and warfare. The nearest approach to it is, probably, the recital of the anguish and misery endured by the followers of Federmann and Quesada during their long marches through the swampy forests and over the precipitous sierras of New Granada.

Many of the Spanish historians describe this famous journey across the Andes, but the most spirited record is that of Herrera, who, in writing of it, has, in the words of

the colder sections of the plateau. The coal used by the company at the time of my visit to Ecuador was brought from Australia and was quite expensive.

¹ *Esplorazione delle Regioni Equatoriali*, p. 24, Milano, 1850.

Prescott, "borrowed the pen of Livy describing the Alpine march of Hannibal."

Many of Alvarado's troopers "were frozen stiff in their saddles," while the track of the hapless army through the snowy passes was dismally marked by "the dead bodies of men, or by those, less fortunate, who were left to die alone in the wilderness. As for the horses, their carcasses were not suffered long to cumber the ground, as they were quickly seized and devoured half raw by the starving soldiers, who, like the famished condors, now hovering in troops above their heads, greedily banqueted on the most offensive offal to satisfy the gnawings of hunger.

"To add to their distress, the air was filled for several days with thick clouds of earthy particles and cinders which blinded the men and made respiration exceedingly difficult. This phenomenon, it seems probable, was caused by an eruption of the distant Cotopaxi, the most beautiful and the most terrible of the American volcanoes. . . . Alvarado's followers, unacquainted with the cause of the phenomenon as they wandered over tracts buried in snow—the sight of which was strange to them—in an atmosphere laden with ashes, became bewildered by this confusion of the elements which Nature seemed to have contrived purposely for their destruction. Some of the men were soldiers of Cortes, steeled by the many and painful marches and many a sharp encounter with the Aztecs. But this war of the elements, they now confessed, was mightier than all.

"At length, Alvarado, after sufferings which even the most hardy probably could have endured but a few days longer, emerged from the snowy pass and came on the elevated tableland, which spreads out more than nine thousand feet above the ocean, in the neighborhood of Rio-bamba. But, one-fourth of his gallant army had been left to feed the condor in the wilderness, besides the greater part, at least two thousand, of his Indian auxiliaries. A great number of his horses, too, had perished; and the men

and horses that escaped were all of them more or less injured by the cold and the extremity of suffering. Such was the terrible passage of the Puertos Nevados, which I have only briefly noticed as an episode to the Peruvian conquest, but the account of which, in all its details, though it occupied but a few weeks in duration, would give one a better idea of the difficulties encountered by the Spanish cavaliers than volumes of ordinary narrative.”¹

Although we had been gradually approaching Chimborazo from the time we had left Guayaquil, we were unable to enjoy a good view of it until we had actually arrived quite near to it. The sun had set nearly an hour before, and the full moon was shining with unwonted brightness. Suddenly the heavy dark clouds, that had enshrouded the mountain, cleared away and there against the starlit sky stood the snow-capped summit of the famous “Giant of the Andes,” long reputed to be the highest peak on the surface of the globe.² I must confess, however, that inspiring as the sight was, my first view of the famous summit from the upland, was disappointing. I was not so much impressed by its height or its grandeur as I had been when I caught my first glimpse of it from the harbor of Guayaquil. It did not even appear so lofty as a part of the range near the coast. As a matter of fact, some of the highest peaks near Guayaquil have an altitude of twelve thousand feet above sea level, while the summit of Chimborazo, from where I first saw it on the lofty Andean plateau, was less than ten thousand feet above me. Then it stood alone with nothing to compare it with, whereas the mountains near the coast

¹ Prescott's *Conquest of Peru*, Book III, Chap. VII.

One of the most pathetic episodes of this terrific passage across the sierra was the tragic death of a Spanish soldier, who was accompanied by his wife and two daughters. He might have escaped alive, but, unwilling to abandon those who were unable to proceed further, all four succumbed to the cold together. Herrera, *Historia de las Indias Occidentales*, Dec. V, Lib. VI.

² Mrs. Elizabeth Barrett Browning in her *Aurora Leigh* writes: “I learnt by how many feet Mount Chimborazo outsoars Himmeleh.”

were surrounded by lower peaks and banded by peculiar stratified clouds that had the effect of greatly exaggerating their apparent altitude.

Until the time of Humboldt, the summit of Chimborazo was considered inaccessible. Accompanied by M. Bonpland, this eminent explorer in 1802 made an attempt to scale its untrodden heights, but was forced to desist from his undertaking when within little more than one thousand feet of his goal.

In 1831 the distinguished French savant, J. B. Boussingault, accompanied by Colonel Hall, an American, essayed twice to achieve success where the great German explorer had failed, but he, too, was compelled to relinquish his enterprise, but not until he had approached four hundred feet nearer the eagerly-sought summit than had his distinguished predecessor.

The glory of being the first to report victory, where others had met with defeat, was reserved for the English Alpestrian, Edward Whymper, who, in 1880, succeeded in twice planting his colors on the loftiest peak of the loftiest summit of the Ecuadorian Andes.

The plain of Riobamba has been the theater of many notable events recorded in the annals of Ecuador. On the ridge of Tiocajas, towards the south, several decisive battles have been fought. It was here that the great Inca conqueror, Tupac-Yupanqui, routed Hualcopo Duchisela, the fourteenth Shiri of Quito, and subsequently took possession of the whole country as far as Mocha. It was on the same spot that his illustrious son, the Inca Huayna Capac, conquered the son of Hualcopo, Cacha-Duchisela, a quarter of a century later. It was here that the armies of Huascar and Itahualpa, the sons of Huayna Capac, met in stubborn and bloody conflict and prepared the way for the conquest of their country by the Spaniards, whose caravels were at that very moment coasting along the shores of the Inca empire. It was on Tiocajas, too, that the noted conquistador, Sebastian Bellacazar, in 1534, after many

bloody combats, won a decisive victory over Rumiñahui, which made him undisputed master of the Kingdom of Quito.

This same plain of Riobamba also witnessed a meeting of three conquistadores that was almost as unforeseen and as dramatic in its leading features as was the extraordinary coming together of Quesada, Federmann and Bellacazar on the tableland of Cundinamarca.¹

Curiously enough, the daring, ambitious, irrepressible Bellacazar took a prominent part in both of these unexpected meetings. He had been appointed by his chief, Francisco Pizarro, as governor of San Miguel de Piura, but, learning that there were great treasures of gold and silver in Quito, rivaling in amount those that had been found in Cuzco—he left his post without the knowledge of his superior and headed an expedition to the land of the Shiris.

About the same time, Pedro de Alvarado, who had been an officer under Cortes, but was then governor of Guatemala, was fitting out, by order of the King of Spain, a fleet that was to sail under his command to the Isles of Spices. But, Alvarado, hearing of the vast riches of Peru and learning that the unexplored country of Quito was equally rich in gold and silver, determined, in spite of the orders of the king to proceed to the Spice Islands, to start at once for Quito. After crossing the Cordilleras, as above described, he learned, to his surprise, that he had been preceded by Bellacazar.

While these events were occurring, Pizarro's associate, Almagro, who was then near Cuzco, receiving information of the arrival of Alvarado in Quito, which was claimed by Pizarro, started post-haste for Piura, in order to get reinforcements from Bellacazar, preparatory to marching against Alvarado. But Bellacazar was gone, and his enemies, wishing to injure him, told Almagro that he had left

¹ See *Following the Conquistadores up the Orinoco and down the Magdalena*. Chap. X.

to join Alvarado. This grieved and amazed Almagro beyond expression, but he saw there was no time to be lost. He accordingly proceeded, with the force at his disposal, to Quito—the country, not the city of Quito—to punish Bellacazar for abandoning his post and to frustrate the designs of the intruder, Alvarado.

In a short time, considering the distance to be traversed and the difficulties of the journey, he arrived near the present city of Riobamba, where, after numerous preliminary negotiations through their respective agents, the three chieftains agreed to meet in conference and adjust their differences without resort to arms. The controversy was long and spirited. Claims and counter-claims were presented, and it frequently seemed that bloodshed was inevitable. Finally, diplomacy triumphed and Alvarado agreed to waive all his alleged rights and turn over his ships and munitions of war to Almagro, in consideration of the sum of one hundred and twenty thousand castellanos, and leave Pizarro undisputed master of all the territory in question. Thus was amicably adjusted on two memorable occasions, claims and disputes that seriously threatened to jeopardize the very existence of the Spaniards in the enemy's country just as the conquistadores were on the point of establishing their monarch's power on a basis that was to endure until the War of Independence in the first quarter of the nineteenth century.

CHAPTER IV

A LAND OF VOLCANOES

The first place of importance on the Ecuadorian tableland which we visited was Riobamba, not the old town founded by the Puruha Indians and subsequently occupied by the Spanish conquerors, but the next town founded on a new site after the destruction of the old one by the terrible earthquake in 1797. It counts about twelve thousand inhabitants and possesses several important ecclesiastical and educational institutions. It is also the birthplace of several of Ecuador's most noted sons, for here were born Maldonado the scientist, Orosco the poet, Velasco the historian and several others scarcely less celebrated.

When W. B. Stevenson visited this place early in the last century he was not favorably impressed with its possibilities as a future commercial center. He could not then, of course, foresee that it would be the first city of the plateau to be connected with the coast by rail and the consequent impetus that this connection would give to trade and manufacture in a place that had so long been almost dormant. Even at the time of our visit, which was but shortly after the railroad had been extended to it, Riobamba was beginning to manifest a degree of business activity that quite surprised the older inhabitants.

What first attracted our attention was the hotels. From what we had been told, there was not a single one in the place where the traveler could stop with any degree of comfort. Imagine our agreeable surprise, then, in finding several hotels that were quite satisfactory. Ours was a commodious two-story building—most of the buildings have but one story—where we found every reasonable provision

made for the entertainment of its guests. This was one of the first results of the advent of the railway. The employés of the road, and commercial travelers had created a demand for better lodgings than had previously existed, and the demand had been met without delay.

Another evidence of progress was a large electric power-plant, recently established, which is operated by water, and designed to supply light to the city and furnish power for flour mills and other manufactories. As a result of the erection of these flour mills and the increased acreage devoted to the cultivation of wheat and other cereals, it is confidently hoped that the agricultural lands of the plateau will soon be able to supply the coast country with the flour needed, which has hitherto been imported from Chile and the United States.

The view from Riobamba is most fascinating, and fully justifies Boussingault's statement that "it exhibits the most singular diorama in the world." From few other points in the republic may one gaze upon volcanoes and mountain peaks that are so majestic and imposing. In the west Chimborazo and Carihuañirazo raise their lofty summits above the clouds, while, towards the east, are the colossal masses of El Altar, Cubillin, Tunguragua and others scarcely less prominent.

El Altar looks somewhat like an altar, whence its name. In Quichua it is called *Capac-Urcu*,¹ the father of mountains, because, according to Indian tradition, it was formerly higher than Chimborazo. Its summit was then, it is said, in the form of a cone, but owing to some convulsion of Nature it was, a few years before the arrival of the Spaniards, reduced to its present condition. So impressed was the German savant, Dr. Stübel, by its beauty and grandeur that he did not hesitate to pronounce it "the masterpiece of volcanic creations."

Tunguragua, which rivals Chimborazo in size and sub-

¹ Also called the Cerro de Collanes, from the Aymara word signifying sublime, grandiose.

limity, is a volcano which, although quite irregular in its activity, has been noted for its terrific eruptions from time immemorial. Its summit has the form of a perfect cone and is covered with a mantle of eternal snow. Passing from its base to its crater is like traversing from the equator to the pole. Its lower slopes on the eastern declivity are covered with the luxuriant vegetation of the tropics, while its crest is the home of glaciers of vast extent and thickness. During a notable eruption in 1777 many towns and villages were destroyed, while during an eruption in 1886 the ashes that were belched forth were carried as far as Guayaquil. A deluge of water and avalanches of mud, resulting from the melted ice and snow, inundated the valleys at its foot, and the Pastaza, an affluent of the Amazon, was cumbered with the debris carried down the mountain's slope by the raging flood.

Thirty miles southeast of El Altar is the active volcano of Sangai, pronounced by Villavicencio to be "the most frightful volcano in the world"—"*el mas horroroso del globo.*"¹ Its eruptions, according to the natives, alternate with those of Cotopaxi. When one is in action the other is in repose, each in turn becoming a safety valve to the common focus of disturbance. At one time its explosions resemble the discharge of musketry, at another it is like the report of a broadside from a man-of-war, while occasionally, large masses of incandescent rock are exploded in the air, producing a terrific sound like that of the largest bombs. So loud, indeed, are the detonations that they are audible as far as the coast, and the ashes are carried to the waters of the Pacific.

So great is the mass of ash and cinders ejected from this volcano that it would, Reclus assures us, equal that of several mountains. "The surrounding country is covered to a great depth with a grayish dust, and moving dunes of volcanic sand, more than a hundred meters in thickness, are carried along by the action of the wind. At times the

¹ *Geografia de la Republica del Ecuador*, p. 51, New York, 1858.

tempest, sweeping over the rock, reveals the escarpements of mica-schist which form the primitive skeleton of the Cordillera.”¹

For years at a time, Dr. Reiss informs us, it pours forth immense streams of lava towards the east, and their onward course is not arrested until they reach the virgin forests that incline towards the basin of the Amazon. And during several years in succession the Mayas Indians are witnesses of the illumination due to the reflection of light from the rivers of molten lava.

While in eruption, Villavicencio tells us, Sangai presents the aspect of an enormous pharos, more sublime than that which surmounts the environs of Naples, but it is a beacon that serves no purpose, for while the one illumines the civilization and commerce of old and lovely Italy, the other wastes its beams on solitude and barbarism.²

It seems probable that the disastrous earthquake which destroyed the old city of Riobamba in 1797, had its origin in Sangai. So complete and sudden was this visitation that few of the twenty thousand inhabitants of the city were able to escape, and Stevenson was fully justified in declaring that “perhaps no remains of these awful convulsions of Nature are more awful than those of Riobamba.”

“The face of the country was entirely changed, so much so that after the shock, the surviving inhabitants, and those of the neighboring provinces, could not tell where their houses formerly stood, or where their friends had formerly lived; mountains rose where cultivated valleys had existed; the rivers disappeared or changed their course, and plains usurped the situation of mountains and ravines.”³

Even more remarkable in many respects than the disaster just noted, was the extraordinary disappearance, in 1640, of the village of Cacha in the immediate vicinity of

¹ *Nouvelle Géographie Universelle*, Vol. XVIII, p. 422, Paris, 1893.

² *Op. cit.*, p. 52.

³ *A Historical and Descriptive Narrative of Twenty Years' Residence in South America*, Vol. II, p. 268, by W. B. Stevenson, London, 1825.

Riobamba, in which, it is said, five thousand people lost their lives. According to information available, it was not due either to an earthquake or to volcanic action, but to a sudden landslide or depression of the earth's surface. "The catastrophe," writes Dr. T. Wolf, "it appears, took place in silence, though rapidly; for even in the immediate neighborhood, neither earthquake was felt nor noise heard. A proof of this is, that the priest, having a short time before gone out with the sacristan to administer the sacrament to an Indian who lived some little distance from the village, was, on his return, much astonished not to find even the site where Cacha had previously stood."¹

Of all the travelers who have recorded their impressions of the marvelous views obtainable from Riobamba, no one has given a more truthful pen-picture of what he saw than the distinguished French savant, J. B. Boussingault, who expresses himself as follows:

"This vast amphitheater of snow, limiting the horizon of Riobamba on all sides, is a continual subject of varied observations. It is interesting to consider the aspect of these glaciers at different hours of the day and to see their apparent height change at every moment, owing to atmospheric refraction. With what interest does not one behold the production, in so limited a space, of all the great phenomena of meteorology! Here it is one of those immense, long clouds, that Saussure has so aptly defined as parasitic clouds, which fastens itself about the middle of a cone of trachyte and so adheres to it that the wind has no power over it. Presently, lightning flashes and thunder rolls in the midst of this vapory mass, hail and rain flood the mountain's base, while its snowy summit, untouched by the storm, is rendered dazzling in the sunshine. Farther on it is a lofty peak of resplendent ice. Clearly outlined against the azure sky one may distinguish its entire contour. The atmosphere is remarkably pure, yet this icy

¹ Quoted by A. Simson, in his *Travels in the Wilds of Ecuador*, p. 21, London, 1886.

peak is covered with a cloud, apparently coming out, smoke-like, from its bosom. This cloud, turning into a light vapor, soon passes away. Again it reappears and again it passes away. This intermittent formation of clouds is a very frequent phenomenon on snow-capped mountain peaks. It is observed especially during calm weather, always a few hours after the sun's culmination. Under such conditions, glaciers may be compared to condensers launched toward the elevated regions of the atmosphere to dry up the air by cooling it off and thus bring down on the earth's surface the rain which was contained therein in the state of vapor."¹

As we were passing through Riobamba early one morning, we were surprised at seeing the large number of Indians engaged in besoming the streets. They seemed to be as particular about their work as are the good housewives of certain Dutch towns, who are not content with sweeping the streets but must needs scrub them as well.

The train we were to take for Ambato was scheduled to leave at six o'clock in the morning. But there was one delay after another so that we were detained at the depot several hours. We then began to realize what it was to be in a country that is under martial law. The attempt on the life of the president a few days previously had thrown the whole country into a ferment of excitement, and the government was taking every possible precaution to prevent an anticipated revolution. All suspects and strangers were kept under surveillance, and we did not escape the watchful eyes of police and secret service men. But so far we had not been molested. Others, however, were less fortunate. We saw several arrested, who were suspected of being implicated in the conspiracy, and, judging by the manner in which we were scrutinized by several government officials, we felt that we might at any moment be called upon to give an account of ourselves. But our time had not yet come. After our train had been held for the

¹ *Viajes Científicos á los Andes Ecuatoriales*, p. 207, Paris, 1849.

arrival of a company of soldiers, that was to be transferred to another part of the country, we finally got started and found ourselves circling around the arid Meseta of Riobamba and headed towards Chimborazo. To us, coming from the lowlands, it was bitter cold, but the natives seemed to be quite comfortable, although but slightly clad. What added more than anything else to our discomfort was the chilly sand-blasts that swept through our windowless car and at times almost blinded us. It was a Sahara sand-storm and a Siberian blast unpleasantly wedded.

Happily, there were so many things to claim our attention that we managed to endure the trials imposed by cold and wind. Chief among these was Chimborazo, which we were gradually approaching and along whose base we were to travel almost until we reached Ambato. The clouds, that so often conceal it from view, had lifted and we could behold it in all its impressive grandeur and sublimity. Owing to the clear atmosphere, the snow-capped apex of this colossus of Ecuador seemed much nearer than it was in reality. I then recalled the ambition that I had long entertained, after reading of the futile efforts of Humboldt and others, to scale its summit and plant the American flag on its loftiest peak. Indeed, after climbing Popocatepetl I had actually made all arrangements to essay the ascent of Chimborazo and Cotopaxi, but, at the last moment, something intervened to prevent me from carrying my long-cherished plans into effect. Now, that I was passing over the foothills of these two grand peaks, I felt anew the regret I had experienced long years before in not being able to gratify my desire of exploring these—to me—alluring heights. But while the ardor of youth still remained, I realized that I was a quarter of a century older, and wisdom counseled prudence and renunciation. Besides, *cui bono?* I said to myself while gazing wistfully at the glistening summit of the giant of the Andes and still dreaming of the possibility of attaining its dizzy crest. Others have been there and explored its broad

glacier fields and all that is visible of its once enormous crater and lava streams which, during prehistoric times, coursed down the precipitous sides. I could, even if successful, add but little to the sum of human knowledge by repeating the feat of Whymper and his brave Swiss Alpestrians, and, such being the case, there was little left but idle curiosity to compensate for the fatigue and danger that would necessarily be incident to such an undertaking. I accordingly satisfied myself by reading Bolivar's *Delirio*, penned after contemplating what he happily calls "*el atalaya del universo*"—"the watch tower of the universe."

I have, however, reason to remember Chimborazo without having essayed to reach its summit. But the memory to which I refer is not a pleasant one. We had reached the eastern base of the mountain, at a point nearly twelve thousand feet above sea level, shortly after nightfall, and, while rounding a sharp curve with a heavy gradient, the locomotive and a part of the train got derailed. Just then it began to rain and hail. This was followed by sleet and a piercing wind from which our open car afforded no protection. There was no means of heating the car, and the cold gradually became more and more intense and the tempest more violent. We thought at first that the engine and cars could soon be gotten back to the track. They were, but no sooner was an attempt made to move forward, than the locomotive was again off the rails. We were in the worst possible place for such an accident to occur. Time and again the engine was restored to the track, but each time the throttle was opened it glided off the rails. Hour after hour passed away, but all attempts to get started again were futile. The conductor and engineer resorted to every means at their command to overcome the difficulty that confronted them, but in vain. The trainmen labored like Trojans but to no purpose. Meantime the passengers, at least those of us who had come from the coast, were suffering from the damp, cold and penetrating wind from the snow fields just above us. I was well provided with



ASTRONOMICAL OBSERVATORY, QUITO.



SUMMIT OF CHIMBORAZO AS SEEN FROM THE PLATEAU.

heavy clothing and wraps, but these were insufficient to shield me from the arctic blast that raged without intermission during the entire night. After putting on a light and a heavy overcoat I wrapped around myself a heavy Scotch blanket that had kept me warm in the coldest of northern latitudes. But still I shivered, and my teeth chattered as never before. Never had I suffered so much from the cold in the severest rigors of a subarctic climate. I thought surely that I should have pneumonia before morning.

How the other passengers—most of them with very light clothing—survived that night of horror will always be a mystery to me. Most of them, I know, tried to keep warm by copious draughts of aguardiente—a crude kind of brandy made from sugar-cane—and the majority were soon stupid from the effects of the poisonous extract.

Finally, the morning dawned and the employés of the road were still devising ways and means to get started, but all their efforts were still fruitless. "What is the matter?" I asked a large, robust Jamaican negro, a brakeman. "What am de matter?" he said, in an agonizing voice. "My good Lawd, de train hab jumped de track, dat am what's de matter." And the poor fellow, suffering from hunger and fatigue, and half frozen, and no longer able to restrain his pent-up feelings, burst into loud sobs and cried like a child.

Finally, however, after laboring for twelve mortal hours, the trainmen succeeded—how, I do not know—in getting the train back on the rails and in releasing us from what was to me one of the most trying experiences of my life. I was then quite satisfied to leave Chimborazo alone on his storm-swept paramo, and was in no further mood to read *delirios* or odes about the "Giant of the Andes" or the "Watchtower of the Universe." I should just then have been glad to have had a little of that unbearable heat which Aristotle and Pliny affirmed always to prevail near the equator.

Our first stopping-place after leaving Riobamba—I do not refer to our unavoidable detention at the foot of Chimborazo—was Ambato. This is a town of about eight thousand inhabitants, and is celebrated for its fairs, which attract more people than any others in the republic. It has several times been destroyed by earthquakes, but each time it has been rebuilt and is now one of the most prosperous places on the plateau. What specially invited our attention was the large number of orchards devoted to the cultivation of fruits of the temperate zone—among them apples, peaches, pears and apricots. Indeed, so far as the production of fruits goes, the Ambato valley is perhaps the most fertile tract on the tableland between Cuenca and Ibarra.

We probably made a special note of this particular feature of Ambato because it is in such marked contrast with the general appearance of the plateau between Riobamba and Latacunga. A great part of the land between these two places, when not an arid, barren plain, is a dismal heath or a cheerless moorland. Not more than half of it is available for cultivation, and even this part, aside from some favored valleys, is far from being fertile. It produces barely enough to support the present sparse population. If there were a marked increase in the number of inhabitants, it would be necessary to seek for means of subsistence beyond the plateau, or adopt quite different methods of agriculture from those which have obtained since the time of the conquest. Except in a few of the better conducted haciendas, one still sees everywhere the same primitive methods of agriculture that were introduced by the Spaniards three and a half centuries ago. With the advent of railroads, however, and cheaper transportation, there is no doubt that old methods of tillage will soon give way to modern principles of husbandry, and that the simple implements that have so long been almost exclusively employed will soon be replaced by the better types of farming machinery of foreign manufacture. When this time

shall arrive,—and it should be in the very near future,—the manufacturers of the United States should be the first to avail themselves of the opportunity of creating a new market for their products and for the latest mechanical creations of Yankee genius.

The chief agricultural products of the inter-Andean plateau are wheat, barley, maize and potatoes. The latter two are the chief sustenance of the poorer classes. Roast corn—*mote*—and potato soup—*locro*—are to the *serrano*—mountaineer—what boiled and roast plantains are to the inhabitants of the lowlands—their staff of life.

Extensive tracts are also devoted to the cultivation of alfalfa. Before the completion of the railway between the coast and the capital, this was, in some respects, even more important than corn or wheat, for without a liberal supply of *yerba*—provender—it was impossible to keep up the large and numerous mule trains that were necessary for transporting merchandise between Guayaquil and the towns of the interior. Even to the casual traveler among the Cordilleras, as every one who has had any experience in Andean lands knows, *yerba* is the most essential item of a successful trip, and the one that is first called for at the end of the day's journey. The rider may dispense with bread and *locro*, for this can be replaced by eggs and toasted corn, or he can, if need be, make shift with the latter alone, but his mount must have his daily allowance of *yerba* or progress is impossible.

The plateau between Riobamba and Quito is monotonous and desolate in the extreme. For a part of the distance it is as arid as Arizona and as treeless as the tableland of Mexico. But few trees are visible. Along the banks of rivers and streams there is an occasional willow or wild cherry, but nothing that approaches a forest. Excepting the American aloe, one sees little more than certain species of cactus, euphorbia and eupatorium together with a species of tall grass called *sigsig*.

The aloe—*Agave Americana*—is called *Cabulla* by the Ecuadorians, and is used by them, as by the Mexicans, for a great variety of purposes. It serves as an enclosure around houses and gardens and as a hedge along the road. The broad leaves supply the poorer people with thatch for their huts, while the tall flower stalks are employed for building purposes.

There are two reasons for this notable absence of vegetation on the part of the plateau in question, for it is generally admitted that it was not in its present condition at the time of the arrival of the Spaniards. One reason is that the forest growth has been destroyed by the owners of the land and that they never made any provision to replace it. Another reason—and probably the chief one—is the character of the soil. This is largely of volcanic origin—a porous pumice which favors rapid evaporation as well as speedy absorption—and a compact tufa which permits rain to flow away as soon as it falls. In both cases the land is rendered arid and unproductive. Only improved methods of cultivating the soil and the creation anew of extensive forest tracts can, as the Ecuadorian botanist, Sr. L. Sodiro, pertinently observes, give back fertility to large stretches of territory that are now little better than desert wastes.¹

On our arrival at Latacunga, a town of about twelve thousand inhabitants, we were met by a number of soldiers who required us to give an account of ourselves. They desired to know whence we came, whither we were going, and what was our occupation and nationality. We supplied them with this information, but they were not satisfied, and told us they would have to take us to the police station. We accordingly started towards the town, which is some distance from the railway, and the guard accompanied us. There were, however, quite a number in our party—most of them Ecuadorians—but in separate conveyances. When we finally reached the town, going directly, as we supposed, to

¹ *Apuntes sobre la Vegetacion Ecuatoriana*, p. 26, Quito, 1874.

the prefecture of police, the Ecuadorians suddenly dashed off into various side-streets, and the guards, unwilling to lose sight of them, started after them post-haste, apparently forgetting us altogether. Finding ourselves thus unexpectedly at liberty, we quietly proceeded to our hotel to await developments, but, strange to say, we were not again molested during the day that we remained in the place. The police and military had, evidently, more important matters to occupy their attention than two wandering Gringos.

Latacunga is a dreary, melancholy place—just such a place as one would avoid—if he is inclined to homesickness. Besides this, we found it exceedingly cold. It is nearly ten thousand feet above sea level, and at the time of our visit, there was a stiff breeze blowing from the direction of snow-capped Cotopaxi, and this also tended to reduce the temperature. Most of the houses are built of pumice stone, and this likewise contributes to the cheerless aspect of the place. Like many other towns in Ecuador, it has suffered frequently from earthquakes and from its proximity to Cotopaxi, which is only six leagues to the east. It was destroyed four times between 1698 and 1797. For this reason the houses are of but one story with very thick walls, so as to offer the greatest possible resistance to seismic disturbances.

The first recorded eruption of Cotopaxi took place in 1534, at the time of the arrival of the Spaniards, and proved, as a certain writer has observed, "very favorable to the enterprise" of the conquistadores. "For the Indians, possessed with truth of a prediction of their priests that on the bursting of the volcano they would be deprived of their country and reduced under the government of an unknown prince, were so struck with the concurrence of the bursting of the volcano, and the invasion of a foreign army, that the spirit, which universally began to show itself in the preparations everywhere made for a vigorous resistance, entirely left them, and the whole province was

easily conquered, all its caciques submitting to the King of Spain.¹

But destructive as are the eruptions of the volcano when it belches forth ashes, cinders and lava, it is even more so when its terrific operations are followed by deluges of water and avalanches of mud, carrying along with them immense blocks of ice and rock to great distances, causing death and devastation all along their course. Such an eruption took place in 1877, and, so great was the velocity of the angry flood that it swept the plain with the momentum of an express train, carrying before it bridges, buildings and everything that stood in its path. The very day of the eruption the irresistible torrent reached the mouth of the Esmeraldas River, nearly three hundred miles distant. The catastrophe had been announced the preceding evening by an enormous column of black ashes, which the roaring mountain projected more than three miles above the crater, and which an east wind carried far out over the Pacific. Vessels going from Guayaquil to Panama were suddenly enveloped in a cloud of dust, and transmitted to Europe and the United States the first news of the disaster. After this eruption of ash there was a welling of molten lava over the rim of the crater, which melted the ice and snow and transformed them at once into tremendous avalanches of mud. At the same time immense blocks of ice were transported across the plain of Latacunga to a distance of thirty miles, where they remained several months before they were entirely melted. By a singular contrast, the summit of the volcano, which is ordinarily snow-white, remained for a long time black and calcined, except in a few spots that had escaped the streams of lava.²

The foregoing is only one of many similar eruptions that occurred during the last century, and that contributed so

¹ *Jorge Juan and Antonio de Ulloa*, Op. cit., Vol. I, p. 253, and Herrera, ut. sup., Lib. V, Cap. VII.

² Reclus, Op. cit., p. 419.

much toward sterilizing the surrounding country, and rendering Cotopaxi so formidable to the inhabitants who live in its vicinity. It is a constant menace to life and property and it is often so quick in its action that its victims have no time to escape.

But terrible as are the catastrophes that accompany volcanic action in this extraordinary plateau, they might be much greater and extend over a much wider territory. According to L. Dressel, there are on the highlands of Ecuador no fewer than thirty-nine volcanoes, forming what has aptly been called "an avenue of volcanoes," extending from the northern to the southern boundaries of the republic. Nowhere else in the world are there so many volcanoes within the same area. Only in the island of Hawaii is there a center of volcanic energy at all comparable with that which distinguishes Ecuador. Humboldt does not exaggerate when, in his *Views of Nature*, he declares, "The whole elevated tableland of Quito, which is surmounted by the high mountains of Pichincha, Cotopaxi and Tunguragua, constitutes one sole volcanic hearth. The subterranean fire bursts sometimes from one and sometimes from another of these openings, which have generally been regarded as independent volcanoes."¹ In consequence of this the earth must present to inquisitive Martians—if such beings exist—the same appearance as the surface of the moon exhibits to us when viewed through a powerful telescope—so seared and pitted is it by the long-continued action of our globe's most active volcanic fires.

Fortunately there are never more than two or three of these volcanoes active at the same time. If all, or even a great number of them, were simultaneously to vomit forth ashes, cinders, and lava, the imagination would fail to picture the wide-spread devastation that would ensue. It would be like the return of at least a part of the earth to its original condition of darkness and chaos.

But why, it will be asked, do people live in a land in

¹ Bohn edition, p. 360.

which they are constantly exposed to such sudden and awful disasters—where thousands of victims are sacrificed in a single moment? Why do people cling to the rich flanks of Kiluea and Mauna Loa, and huddle around the treacherous slopes of vine-clad Etna and Vesuvius, or pitch their tents on quaking, incandescent Stromboli? Let philosophers reply.

While traveling in Ecuador, one is sure to hear strange stories and legends about certain volcanoes, especially Cotopaxi, Sangai, Tunguragua and Imbabura. These, we are assured, eject not only ashes, cinders, scoria and lava, but also water. This water, we are informed, exists in immense subterranean reservoirs connected with the funnel of the crater, and when the volcanoes are in eruption, gives rise to the devastating floods and mud avalanches to which reference has just been made.

But a more marvelous story is that these volcanoes frequently eject vast numbers of fish with the water, which, on decaying, so infect the atmosphere as to cause widespread disease.

The historian Velasco seems to be the one who first gave currency to these stories, which were accepted without contradiction for several generations.¹ Even Humboldt was misled by Velasco's statements, for he relates that Imbabura, during the great eruption of 1691, ejected mud containing so many *prenadillas*—a species of fish which he calls *Pimelodus cyclopum*—that the surrounding atmosphere was so poisoned that it gave rise to malignant fevers among many of the inhabitants in the neighborhood of the volcano.²

In the first volume devoted to the zoölogical work of his South American journey, Humboldt gives us a figure and description of this extraordinary fish—more remarkable by far than any salamander of fable—and devotes several pages to an account of it under the caption of *Memoire sur*

¹ *Historia del Reino de Quito*, Tom. I, p. 11, Quito, 1844.

² *Views of Nature*, ut. sup., p. 367, and *Kosmos*, V, p. 32.

*une nouvelle espèce de Pemelode, jetée par les volcans du Royaume de Quito.*¹

Since Humboldt's time this fable about the *Pimelodus*, or *Cyclopium Cyclopum*—a more appropriate name—has occupied an important place in works on natural history and all the marvels related of this extraordinary fish have been accepted as indisputable facts. The fable, however, is in keeping with that of monkey bridges, originated apparently by Acosta and endorsed later by such distinguished men of science as Jorge Juan and Antonio de Ulloa.

But these stories about the ejecting of water, mud and fish from volcanoes are not the only ones of Velasco which the illustrious German naturalist has unwillingly helped to perpetuate. It well illustrates the extent of human credulity among even the wisest of men. As, at times *bonus dormitat Homerus*, so also does Humboldt fall into errors when he relies too much on reports regarding phenomena concerning which his informants were not competent to form an opinion. Had he, observes Wolf, had an opportunity of himself witnessing one of the eruptions of Cotopaxi, or the formation of one of those aqueous inundations, he never would have spoken of Cotopaxi as "a water volcano," nor would he have maintained that the mud avalanches, and still less the *prenadillas*, originated in its crater.²

There is just sufficient substratum of truth in these fables to account for their existence until the phenomena in ques-

¹ In Tom. I of *Voyage de Humboldt et Bonpland, Deuxieme Partie, Observations de Zoologie et de l'Anatomie Comparée*, Paris, 1811.

² Dr. Moritz Wagner, in his *Naturwissenschaftliche Reisen im tropischen Amerika*, p. 415, Stuttgart, 1870, remarks that Humboldt has deservedly been reproached for giving too much credence to the stories of the natives of the regions through which he passed concerning matters on which they were not competent to express a just opinion. This statement is remarkable, as it is rarely that a German permits himself to criticize any of the pronouncements of his illustrious countryman. Dr. Wagner is evidently one of those who do not love Caesar less but love Rome more—one who is no respecter of persons when there is question of the claims of truth and scientific accuracy.

tion were so thoroughly examined—and that was only a few decades ago—that all the questions involved can now be considered as definitely settled. It is now known, thanks to the investigations of Reiss, Stübel and Wolf, that the floods of water, instead of coming from the crater of the volcano, which was supposed to be connected with subterranean reservoirs, are produced by the molten lava coming in contact with the ice and snow on its summit. The water, thus suddenly formed, rushing down the precipitous sides of the mountain, carries with it ashes and sand and forms the observed avalanches of mud. When these floods and avalanches encounter streams and rivers in their onward course they fill their channels to overflowing, when occasionally “multitudes of fish are borne from their native haunts and left stranded when the waters subside.”¹

I shall never forget the surpassing beauty of Cotopaxi and the fascination it always exercised over me whenever it was in view. So perfectly formed and symmetrical is its summit that it has been called the “ideal volcano” of Ecuador. Its summit is a truncated cone, as perfect as if it had been turned on some cosmic lathe at the time of its formation in the Quaternary period. It is more symmetrical even than the cones of Mauna Loa and Popocatepetl, which are famous for the regular forms of their peaks. Its nearest rival, perhaps, is famous Fujiyama, the pride of Japan.

When I last saw Cotopaxi it was illumined by the glories of the setting sun. The atmosphere was clear and serene—such as so often distinguishes these Andean highlands—and there was not a single cloud to obscure the immaculate mantle that draped its beauteous form. At first, the cone was radiantly white, like molten silver; then it changed to burnished gold; next it was a light rose that shaded into brilliant crimson, while the part below the snow line as-

¹ Wolf, op. cit., pp. 252-53 and 643 et seq., and Whymper, *Travels Amongst the Great Andes of the Equator*, p. 252 et seq. New York, 1892.

sumed at first a delicate blue and then a deep indigo hue, terminating finally, as the sun dropped behind the western Cordillera, in a dark violet, the forerunner of the somber shadow of night. With truth could Villavicencio declare that, when seen under such circumstances, it is a spectacle that must "deeply stir the soul, even of those who are least inclined to contemplate with enthusiasm the great works of Nature."¹

Latacunga, like all other towns along the Guayaquil and Quito Railway, is beginning to exhibit signs of life and business activity, before unknown. Owing, however, to the devastations of Cotopaxi and the sterility of the soil of the surrounding country, it is not likely ever to become a commercial center of any importance. I am glad to be able to give a better report of its cleanliness than Hassaurek and Orton, who seemed to have followed Ida Pfeiffer in advertising it as headquarters for filth and fleas, which increase and multiply in spite of revolutions and earthquakes, and where it was impossible to find an inn in which the traveler could enjoy any comfort whatever. Truth compels me to say that I was more fortunate in my experience. Not only did I note an absence of the objectionable features complained of by previous travelers, but I found in the modest hotel in which I sought hospitality, a clean bed and an abundance of well-prepared, wholesome food.

I can also make the same statement regarding all the hotels at which I stopped in Ecuador. They were all clean and well-kept, and, although none of them were at all comparable with the better class of hostelries in the United States and Europe, there was, in no instance, any reasonable cause for complaint. The only discomfort I suffered in Latacunga was from insufficiency of bed-clothing. Although I had two heavy blankets on my bed—as many as the natives ever require, apparently—I still felt cold. This was doubtless owing to my recent arrival from the hot lowlands. When I called for another blanket, the young

¹ Op. cit., p. 46.

peon who had charge of my room, said there were no more available. "The house is full of guests," he said, "and there is not a single spare blanket to be had." When I told him that I really needed another one, as I felt very cold, he naïvely suggested that I use my overcoat in lieu of a blanket. As there was nothing else to be done, I acted on the young Indian's suggestion, and he retired smiling, satisfied, no doubt, that he had helped me out of a grave difficulty. When, on leaving, I handed the good-natured soul a little *gratificacion* he felt convinced I was rewarding him for timely advice when, in his estimation, my wits were in a creel. Good little Ventura! How often have I recalled your bright, honest face, since your kindly *Adios y feliz viaje!*

CHAPTER V

QUITO BONITO

At the time of our visit, Latacunga was the northern terminus of the railroad, but the work on the unfinished part was being pushed to a rapid completion. Owing, however, to unforeseen delays, the first train did not enter Quito until nearly a year later than the date called for by the contract.

The usual way of making the journey from Latacunga to the capital, before the construction of the railway, was by stage-coach. But the journey by this method was, for many reasons, extremely trying and disagreeable, although the natives did not seem to mind it. Fortunately for us, an enterprising company had, a short time previously, put on this route a number of strong French motor-cars, and had, at the same time, engaged expert French chauffeurs to operate them. We lost no time in securing one of these vehicles, and were thus able to reach Quito with the maximum of speed and comfort.

The road over which we passed was a most agreeable surprise to us, as it was by far the best we had yet seen anywhere in South America. It was one of the notable public works due to the enterprise of Ecuador's most illustrious president, Garcia Moreno. It is said to have cost \$2,000,000 dollars, but it was worth it. As a well-built, well-kept highway, it compares favorably with the best thoroughfares of France and Germany, and that is high praise. With the exception of the last few miles, near the capital, where cobblestones are required, it is an ideal road for automobiles. It is broad and smooth, and although it crosses several mountain spurs and ridges, the grade is

nowhere heavy. It is indeed a splendid specimen of engineering and, as an example of road construction under extraordinary difficulties, it could be studied with profit by those interested in work of this kind.

Along this stretch of road my attention was directed anew to a feature of the country that I had so frequently noted from the time I had left Riobamba—the small amount of water in the rivers and streams which we crossed, or along which we passed. One would naturally expect, where there are so many snow-capped mountains, and where the annual rainfall is so great, to find the water-courses flooded as they are under similar conditions in other parts of the world. But not only was the soil to a great extent dry and bare of vegetation, but there was, as a rule, little water in any of the channels that drain the plateau. Owing to the porosity of the sandy, pumicious soil, most of the water from cloud and glacier is absorbed as soon as it reaches the tableland and does not come to the surface until, at much lower elevations, it swells the rivers that flow to the Pacific, or the countless tributaries of the mighty Amazon. For this reason the inter-Andean plateau is better adapted to grazing than to agriculture. We saw several large flocks and herds in the haciendas through which we passed, and the animals were usually in excellent condition—reminding us of the better class of cattle and sheep we had some months before seen in the famous pasture-lands of Venezuela and Colombia. The future of agriculture in Ecuador lies in the rich coast lands bordering the Pacific and in the fertile valleys of the eastern part of the republic.

Most of the people we met on the way were Indians, for in Ecuador, as in the greater part of South America, Indians and mestizos constitute the majority of the population. Here, as elsewhere, we found them gentle, patient and industrious; fond of their homes and devoted to their families. Many of them lived in extreme poverty and exhibited traces of trial and suffering that could not be con-

cealed. My sympathy, I confess, always went out to these neglected and oppressed people. Their cordial greetings, "*Buenos dias, Señor, Buenas tardes, mi amo*"—"Good day, Sir," or "Good afternoon, my master," always touched a responsive chord, and their unvarying kindness and disposition to oblige completely won my heart. Ah, if they could only have had the advantages of that government which the saintly Las Casas had planned for them, how different would be their condition to-day! Instead of being so often but virtual serfs and the victims of untold wrongs, they would be the happy, prosperous citizens of a great and flourishing commonwealth.

I was always specially interested in the Indian children, although they seemed at times to have Spartan mothers. I recall one case in particular, on our way to Quito, when I was shivering with cold—although I had on a heavy overcoat—of an Indian mother giving a three-year-old boy a bath in a vessel of ice-cold water. But the little fellow, far from objecting to this frigid ablution, seemed to enjoy it. Not far from this spot I met another mother that bore more resemblance to the mother of the Machabees, or rather to Sara, the mother of the patriarch Isaac, who, according to St. Jerome and other commentators, did not wean her son until he was between the age of five and twelve years. In the doorway of her humble hut was seated an Indian woman, and standing beside her was a lusty youth about seven years old taking his morning repast at the maternal breast. It was not such a picture as Raphael has immortalized in his *Madonna della Sedia*, but it was, nevertheless, a rare and touching exhibition of motherly devotion and filial affection. I was aware that under the Incas the Quichua mothers were wont to wean their children "at the age of two years and upwards,"¹ but, although I had frequently seen Indian mothers nursing children about two years old, this was the first instance I

¹ Garcilaso de la Vega, *Comentarios Reales de los Incas*, Lib. IV, Cap. XI, Madrid, 1723.

had ever observed, that seemed to confirm what certain Scriptural exegetes have taught respecting the time of weaning of the son of Abraham.

On the way from Riobamba to the capital I made frequent inquiries about the Inca road, which, the early Spanish writers tell us, extended from Quito to Cuzco and thence to Chile, and which Herrera assures us was full twelve hundred leagues in length,¹ but no one was able to give me any information about it and nowhere was I able to detect the slightest trace of its former existence. I had, therefore, to rest satisfied with what the eminent explorers Wolf and Reiss have to say about what they saw of this far-famed road in the province of Azuay in the southern part of the republic. Dr. Reiss, whose opinion Wolf fully endorses, declares, "The road in this region is formed of the irregular surface of ancient lavas, and there are no vestiges of cement or bitumen. Great and ingenious is the work executed by the Incas, but I do not understand how they can have been compared to the most beautiful highways of the Romans."² I shall, however, have more to say on this interesting but much misunderstood topic in a subsequent chapter.

As we passed along the serpentine road which crosses the ridge of Tiupullo—connecting the inactive volcanoes, Illiniza and Rumiñahui—we constantly had before us the splendid, snow-capped dome of Cotopaxi. It was not in eruption at the time, but about every half hour it emitted immense jets of vapor, which, after describing graceful volutes, became detached from the crater and formed light cumulus clouds that soon vanished in the dry, elevated regions of the atmosphere. So fascinating was the picture

¹ Salía el gran Camino, que se ha dicho de esta Ciudad al Cuzco i otro, que salía del que llegaba a Chile, que esta como mil doscientas leguas del Quito, Dec. V, Lib. VI, Cap. VI.

² *Carta del doctor W. Reiss á S. E. el Presidente de la Republica, sobre sus viajes á las montañas del Sur de la capital*, p. 19, Quito, 1873, and T. Wolf, *Viajes científicos por la Republica del Ecuador*, II, *La Provincia del Azuay*, p. 31, Guayaquil, 1879.

that our gaze was continually fixed on it, almost to the exclusion of everything else within the range of vision.

As I noted the periodic action of this colossal safety-valve of the Cordilleras, and recalled its destructive operations in days gone by, I thought of the sublime versicle of the Psalmist: "He looketh upon the earth and maketh it tremble; He toucheth the mountains and they smoke."¹

From the summit of Tiupullo, nearly twelve thousand feet above sea level, one has one of the most glorious and extensive views in Ecuador—even more imposing than that afforded at Riobamba. To the south are Carihuaairazo, Tunguragua and Chimborazo, to the west Illiniza and Corazon, to the east Sincholagua and Cotopaxi, to the north Cayamba and Cotacachi. All these thrust their lofty summits above the line of perpetual snow.² The lowest of them is higher than the loftiest peak in the United States, while some of them are nearly a mile nearer the azure vault of heaven than the most elevated point of Mont Blanc. Cotopaxi is five times as high as Mount Vesuvius. Indeed the celebrated Italian volcano might be placed on the summit of Pike's Peak, one of the giants of the Rocky Mountain range, and yet its crest would still be a third of a mile beneath the crater of Cotopaxi.

"All that expands the spirit, yet appals,
Gathers around this summit, as if to show
How earth may pierce to heaven, yet leave
vain man below."

Padre Velasco, the historian of Ecuador, declares that Ecuador is "the noblest portion of the New World." To the lover of grandeur and sublimity in mountain scenery this is certainly true. Nowhere else within the same area

¹ Psalm CIII, 32.

² According to Reiss and Stübel the mean altitude for the line of perpetual snow for the western Cordillera is 4,742 meters; for the eastern Cordillera it is 4,564 meters, which would give a general average of 4,653 meters, about five hundred feet lower than the summit of Mont Blanc.

is there such a magnificent galaxy of sky-piercing mountain peaks and volcanoes. From the summit of one of these mountains one may count sixteen snow-capped peaks, all but two of which are volcanoes either active, dormant or extinct. Besides these there are dozens of mountains of lower altitude, all, however, contributing to round out the grandest and most inspiring mountain panorama in all the world.

This lofty ridge of Tiupullo, without referring to what occurred during the conquest of the country by the Incas of Peru, has been the silent witness of many events interesting alike to the historian and to the student of science. It was crossed by the conquistador, Sebastian Bellacazar, when, after his victory over Rumiñahui, he continued his course northward to take possession of the ancient capital of the Shiris, before starting on his memorable journey in quest of *El Dorado* in far-off Cundinamarca. It saw Gonzalo Pizarro and his gallant band before they started eastward for the Land of Canela, where they hoped to find treasures of cinnamon that would rival those of Java and Ceylon. It greeted his lieutenant, Francisco Orellana, the immortal discoverer of the Amazon, on his way to the Napo and to the heart of an unknown continent. It watched, through long years, the arduous labors of the French Academicians in the tremendous task of measuring arcs of the meridian from Ibarra in the north to Tarqui in the south—labors that had for their object the settling for all time of the long-debated question regarding the shape and magnitude of the earth.

While thus enchained to the memories of the past, and absorbed in the contemplation of the majestic kaleidoscopic views that burst upon our enchanted vision at every turn of the road, we were suddenly halted by a squad of soldiers who demanded our passports. The Ecuadorians in our party, being provided with these important documents, were permitted to go on, but as we—my American companion and I—did not have them, we were told that we

should be taken to the prefecture of the police until we should be able to give a satisfactory account of ourselves. We strongly demurred to this, and told the officer in charge that he might keep us under surveillance if he desired, but that it was important for us to reach Quito without delay. He said he had no discretion in the matter for his orders were to arrest every one that had not a police passport. We then begged permission to telephone to the capital for authorization for him to allow us to proceed on our journey. This he declined to do. He said we would have to accompany him to the police station, whence we might send a letter to the capital asking for permission to proceed to our destination. This meant a delay of several days in a most uncomfortable place. Finally, we told them that we were American citizens, and insisted on being allowed to communicate by telephone with the American minister in Quito. He still persisted in his determination to detain us, declaring that his orders were peremptory and admitted of no exceptions. But he had scarcely made this statement, when he beckoned to a subaltern, with whom he entered into an earnest conference for a few minutes. He then told us that he would make an exception in our case, because we were *Norte-Americanos*,¹ and that he was willing to believe that we were not actuated by any sinister motives in traveling without a passport. He wished us, however, to understand that he was assuming a great responsibility in thus contravening his orders, which were explicit and included every one, native or foreigner. And he concluded by saying that he would depend on us to use

¹ The people of the United States are thus called in South America to distinguish them from *Sud-Americanos*, who claim to be as much *Americanos* as the inhabitants of our northern republic. Travelers from our country, introducing themselves by the ambiguous term "Americans" are often mistaken for the citizens of one of the republics of our sister continent. The designation "United States" is equally misleading, for it may mean the United States of Mexico as well as the United States of America, or the United States of North America, as our country is often called in South America.

our influence with the American Minister in his behalf, if his superiors should call him to account for exceeding his authority in permitting us to pass out of this jurisdiction without the necessary passport.

We were halted in a similar manner several times between Tiupullo and Quito, and were not permitted to proceed until after a spirited parley like the one just described. We subsequently learned that the Ecuadorians had no desire to do anything that might involve their country in a controversy with the United States with which they specially desired to live on terms of closest amity, and that for this reason the military authorities had felt justified in treating us with much greater leniency than they would have dared to show their own countrymen. To avoid further trouble, however, we resolved immediately on arriving in Quito to secure a police passport. Our experience in Ecuador, as in Venezuela, had taught me that South American revolutions, while rarely a source of danger to the traveler, who has no connection with them, may often be a cause of extreme inconvenience and annoyance.

Four hours after leaving Latacunga, we were in the capital of Ecuador. Had it not been for the delays just mentioned, we could easily have made the journey of about sixty miles in three hours, so good were our automobile and the roads over which we traveled. As it was, our average speed was little, if any, less than that made by the ordinary motor-car in our own country.

Quito, a city of about sixty-five thousand inhabitants, in most respects closely resembles Bogotá. Like the Colombian capital, it is situated at the base of a mountain and overlooks a broad and fertile plain. The general plan of both cities and the style of architecture are identical. Both places are enveloped in the same sixteenth-century atmosphere, and one almost expects, in walking along the streets, to meet an accredited representative of Charles V, or of the Council of the Indies. While visiting its churches, monasteries and colleges, one is transported back to the times

of the conquistadores, and has exhibited before him at every step, all the local color of a Spanish city in the days of Cervantes and Calderon de la Barca. For three centuries and more this Andean capital has presented practically the same aspect, except that, during short periods, there has been a little change for better or for worse. Its people, like those of many Oriental cities, were satisfied to walk in the footsteps of their ancestors. Aside from the wonderful buildings which they erected, which compare favorably with the most noted in South America, they achieved but little in commerce and the arts of peace. Local industries were limited and conducted according to primitive methods. Mercantile relations with the outside world were little more than nominal, and for long generations the Presidency of Quito seemed to suffer almost total eclipse. At times less was heard of it than of any other country in the southern continent, and it was only rarely that a traveler from Europe, outside of Spain, had the courage or the desire to penetrate its interior. Access to the capital of Colombia was difficult, but a journey from the coast to the capital of Ecuador was more arduous and dangerous. The journey, trying as it was, from the Magdalena to Bogotá, could be made in two or three days. From Guayaquil to Quito, even during the dry season, involved a ten days' journey on mule-back over perilous and at times almost impassable roads, with no stopping places *en route* that offered the weary traveler the ordinary comforts of life. During the wet season all traffic and communication with the outside world were, of necessity, practically suspended.

Great as was our surprise in finding such a city as Bogotá, so completely isolated from the rest of the world, our surprise on beholding the large and beautiful capital of Ecuador was greater. Nestling at the base of Pichincha—"the boiling mountain," as the natives call it,¹ sur-

¹ Pichincha is now dormant, but it has been frequently active since the time of the conquest. The eruption of 1670 was one of the most terrific

rounded by a cordon of snow-capped volcanoes, that seem to defy intrusion by the outside world, on a plateau nearly two miles above the waters of the Pacific, it was, until recently, almost as inaccessible as the home of the Dalai-Lama of Thibet.

But notwithstanding the ever-menacing volcano towering above it, Quito was always to the Ecuadorian of the interior one of the world's most favored cities. It was what Damascus and Bagdad in their halcyon days were to the Arabs, what Cordova and Granada were to the Moors. It was "*Quito bonito*"—"charming Quito"—the city above the clouds, "the navel of the world, the home of *continua primavera*—perpetual spring—evergreen, magnificent Quito." It was like heaven—*Como de Cielo*—where there is neither heat nor cold. It was a paradise of delights. Had Columbus discovered the beautiful valley which it overlooks, he would, we are assured, have pronounced it the site of the Garden of Eden. It was, declares Padre Mariano Andrade:

"Esa ciudad donde el cielo
Gastó todos sus aliños
Como si plantase alli
El celeste paraiso;

recorded in history. Its rumblings and explosions were audible at a distance of three hundred miles, and the ashes issuing from it were, it is estimated, spread over an area of half a million square miles. The ashes, scoria and other material ejected from the volcano, would, it was calculated at the time, have sufficed to make another mountain as large as Pichincha itself. Although the loss of life and property caused by this eruption was not so great as that caused by the awful eruption of Vesuvius in A.D. 79, when Pompeii and Herculaneum were destroyed, many of the phenomena accompanying the two were identical. A contemporary writer, Padre Rodriguez in his *El Marañon y Amazonas*, Lib. IV, Cap. II, gives us a graphic description of the dynamic possibilities of a great Andean volcano, when stirred to action, and of the agonizing terror of the hapless Quitonians, while awaiting the impending doom of their beloved city. The horrors of this disaster fully equaled those of the wrathful Neapolitan volcano so vividly portrayed by Pliny in writing of the death of his uncle, and by Bulwer in the *Last Days of Pompeii*.

QUITO BONITO

Añi donde amante el sol,
Con inseparable giro,
Está siempre vertical
Por contemplar aquel sitio.”¹

Hence the saying among the Quitonians, “de Quito al Cielo,”—“from Quito to Heaven.”

But although Quito was thus isolated from the rest of the civilized world, and was almost unknown in the marts of commerce and in the cabinets of diplomacy, it was by no means devoid of culture or opposed to intellectual progress. Far otherwise. Its literary and scientific luminaries at times shone as brightly as those of its northern neighbor, Bogotá, and their contributions to science and literature make a bright page in the annals of social advancement. As it is the oldest of the South American capitals, so was it among the first to establish schools and colleges. The convent of the Dominicans founded by the Venerable Fray Alonso de Montenegro became a home of learning immediately after the conquest by the adelantado, Sebastian de Bellacazar. The college of San Andres was established by the Franciscans in 1556, and by royal cedula was endowed by Philip II in 1562. San Andres was thus founded only two years later than the first college of Bogotá, and but one year after the establishment of the famous University of San Marcos in Lima. Several other important institutions of learning—colleges, seminaries and universities—followed San Andres in rapid succession, and before the end of the century Quito was a veritable metropolis of schools and scholars.

Curiously enough, Quito's earliest poet was a brother of Spain's illustrious saint and writer—Teresa de Jesús. He was succeeded by many others, one of whom was a woman—Doña Dolores Veintemilla de Galindo. But not to

¹ “The city on which heaven has lavished all its embellishments, as if it were the celestial paradise.

“Straight above it, the sun, in its unchanging circuit, ever remains fondly contemplating the scene.”

mention the long list of those who, as poets, historians, men of science, orators, jurists, have given undying glory to their country, it suffices to signalize one—Don José Joaquín Olmedo—whose poetry, though he produced but little, was of such merit as to cause him to be ranked among the three or four great poets of the New World. Indeed there are not wanting those who accord him the primacy of honor in the literary firmament of America. So exquisite and masterly are some of his odes, especially his *Canto á Junín*—an ode to Bolívar—that he has been deservedly called the American Pindar.

To-day, in spite of the turbulent condition of the country since the War of Independence and the grave financial difficulties the government has had to confront, education, not only in Quito, but throughout the republic, is given far more attention than is ordinarily supposed. President Flores, in 1890, in his message to the Ecuadorian Congress, stated that, "in proportion to the number of its inhabitants, Ecuador was then expending more money for public instruction than any other nation, although nowhere else were the teachers so poorly paid." And Mr. George Earl Church, a distinguished American traveler, referring to the institutions conducted by nuns, for the education of girls, assures us that the devoted religious in charge of them, "give themselves to their noble tasks with a devotion and an abnegation worthy of all praise, and with an intelligence and skill that would do honor to any country."¹

Among all the public institutions in Quito that which possessed the greatest interest for us was the observatory. It is a noble structure in a beautiful park, and is unique both on account of its elevation and its proximity to the equator. Being only fifteen miles south of the equinoctial, the astronomers in the Quito observatory can direct their telescopes to every star in the heavens. Our emotion was great, indeed, when in this sacred precinct, we felt that we could, from a single point, gaze upon the stars and constel-

¹ Report upon Ecuador, p. 48, 1881.

lations of both hemispheres—something that is possible in no other observatory in the world. To the north were the star groups that we had been familiar with from our youth, to the south were others, no less interesting, that we knew only from book and chart. We could survey at a glance all the visible stars of the celestial vault from Polaris, to Octantis at the opposite pole of the heavens. At certain seasons of the year one might contemplate the beauty of the most attractive constellations in the heavens, and have within view two-thirds of the stars of the first magnitude, one's vision ranging from

“The fleecy star that bears
Andromeda far off Atlantic seas.”

to flaming Canopus, in distant Argo, that carried

“The heroic progeny of Greece,
When the first ship sailed for the Golden Fleece—
Argo—exalted for that daring feat
To fix in heaven her shape distinct with stars.”¹

While gazing at the stars, which bejeweled the clear blue sky that canopies the fair city of Quito, I almost coveted the vaunted astrologic power of a Lilly or a Nostrodamus in order that I might read, in their bewildering groupings and mysterious aspects, the future history of the enchanting land of the Equator. But as its destiny was not for me to show, as would the “astrologers and seers of old,” I had to be content with such foreknowledge as could be

¹ Humboldt, commenting on “the luminous worlds which spangle the firmament from pole to pole” observes that “The more magnificent portion of the southern sky in which shine the constellation of the Centaur, Argo and the Southern Cross, where the Magellanic Clouds shed their pale light, is forever concealed from the inhabitants of Europe. It is only under the equator that man enjoys the glorious spectacle of *all* the stars of the southern and northern heavens revealed at one glance. Some of our northern constellations—as for instance, Ursus Major and Ursus Minor—owing to their low position when seen from the region of the equator, appear to be of remarkable, almost fearful magnitude.” *Views of Nature*, p. 349, Bohn edition.

gleaned from the past history of the country, and from a study of the multiplicity of its natural resources.

The first time that Ecuador fully awoke from her age-long lethargy, and exhibited evidence of national vitality, was under the administration of President Garcia Moreno, who fell a victim to brutal assassins in 1875, while he was in the prime of life and actively engaged in many needed reforms and enterprises of supreme importance to the well-being and progress of his country. As has been stated, it is to his energy and progressive spirit that is due the splendid highway from Quito to Sibambe, and which, if his life had been spared, would have been completed to Guayaquil. It was he who began the construction of the railroad—but recently completed—from tidewater to the capital, and who had planned a network of roads connecting the principal cities of the republic with one another and with various new ports on the Pacific coast. Had he lived even a few years longer he would have completed a road between Quito and Esmeraldas, thus bringing the national capital fifty leagues nearer the Pacific than it is now, and have realized a project that was advocated by the Genoese, Vincenzo Giustiniani as far back as 1635, a project frequently urged since then, but as yet nothing more than project. He would, at the same time, have connected the capital with the Bay of Caraquez, and withdrawn Cuenca and Loja from their isolation by building a road to the port of Naranjal.

He made education obligatory, and established schools and colleges in every part of the republic. He founded a technical school and a university fully equipped with laboratories and apparatus, and manned by distinguished professors from Europe. And recalling what Humboldt and Secchi had said regarding the importance of having an astronomical observatory in Quito, one of the most favorable places in the world, he caused to be erected and equipped, regardless of cost, the noble *Observatorio Astro-*

nomico, which is the pride of Ecuador, and which, of itself, would suffice to perpetuate the memory of its founder.

He provided for the thorough sanitation of the capital, something much needed, improved its streets and plazas, founded hospitals and asylums—in a word effected so complete a transformation in the appearance of the city, that, for the first time in its history, foreigners could visit it without finding such matter for criticism as is recorded in Ida Pfeiffer's *My Second Journey Around the World*, and Hassaurek's *Four Years Among Spanish-Americans*.

He reorganized the finances of the country, and established the nation's credit on a firm basis, both at home and abroad. He fostered industry and commerce, and encouraged the development of the natural resources of the country in a way that might, if consistently followed, assure the rapid and continued growth of the young republic.

Besides being a man of broad scholarship, combined with rare culture and refinement, he was endowed with a force of character and a versatility of genius that enabled him to undertake and achieve many things that others less gifted and energetic would pronounce impossible. He was, without doubt, the most brilliant statesman that South America has yet produced, and, could he have been continued in power as long as President Diaz of Mexico, he would have elevated his country to an enviable position among her sister republics, and made her, in proportion to her area, second to none of them in commercial activity and in social and economic progress. As it was, he accomplished wonders. It is no exaggeration to say that he did more in a decade for the material and intellectual uplifting of his country than had been accomplished in the preceding three centuries.

After Moreno's tragic death, the country reverted to its former condition of decadence and misrule, for there was no one competent to continue his work and carry his many splendid undertakings to a successful issue. Fortunately for the impoverished republic, the present administration

has had the activity and the courage to take up anew some of the enterprises that the assassin did not permit their noble originator to complete, and Ecuador is again in a fair way to enjoy its natural advantages and the prosperity that Moreno strove so valiantly to secure for her forty years ago. Every lover of progress will watch with interest the efforts now made by the struggling land of the Equator, and will be gratified in seeing it successfully work out that splendid destiny which Nature seems to have marked out for it and to achieve which a beneficent Providence has blessed her with every treasure of mine and field and forest. Much has already been done, but there is yet much more to be accomplished before Ecuador can reasonably aspire to the position that should naturally be hers. The way to success has been pointed out, and the fondest wishes of Ecuadorian patriots are now within a measurable distance of being realized, but final success, and the glory to the country consequent on its taking its proper place among the nations of the world, is contingent on its carrying out fully and honestly the splendidly-conceived and far-reaching plans of its illustrious, martyr-president, Gabriel Garcia Moreno.¹

¹ Of this remarkable man Professor Orton, an American, in his work, *The Andes and the Amazon*, p. 73, writes that "he stands head and shoulders above his fellow citizens." An Englishman, Mr. Whympers, in his *Travels among the Great Andes of the Equator*, p. 265, informs us that "compulsory education was established by Garcia Moreno in Ecuador before it was introduced into Great Britain, and in 1880, in the interior it was exceptional to find a person who could not read." Sr. M. Menendez y Pelayo, in the *Antologia de Poetas Hispano-Americanos, Publicada por la Real Academia Española*, Tom. III, p. CXLVIII, after referring to Garcia Moreno's great gifts as a poet and prose writer, concluded as follows: "The greatness of his administration, the integrity of his character and the glory of his death make him one of the noblest types of human dignity that can glorify our race in the present century. The republic that produced such a man may be poor, obscure and forgotten, but with him it has enough to live in history with honor."

Many biographies have appeared of this eminent statesman and patriot, but if the reader desires to have an adequate idea of his life, opinions and ideals, he should consult his collected works published in two volumes, entitled *Escritos y Discursos*, Quito, 1887-1888.

CHAPTER VI

A RAINLESS COAST

Our last view of Ecuador was fully as entrancing as the first. It was from the deck of the steamer that was to take us to Callao, the principal port of Peru, and was but a few moments before sunset. Our eyes were fixed on the Andes—riveted on them by a kind of fascination that was quite irresistible. For months we had made our home among them, but the more we saw of them the more completely we felt ourselves under their mysterious spell. As seen from the Caribbean and the lofty tablelands of Colombia, their magnitude and sublimity seemed incomparable, but as viewed from the plateau of Ecuador and the Gulf of Guayaquil they were matchless, supreme. Rising majestically far above the boundless forests at their feet, their snow-capped peaks are, of a truth, the companions of “the morning star at dawn” and of Hesperus at eventide, while during their mighty vigils they are visited by “troops of stars” that silently hymn their Creator’s praise.

While we thus stood enrapt in contemplation of the wonderful scene before us, there suddenly appeared, beyond and above the vast mountain chain, the colossal form of Chimborazo. The clouds that had enveloped him had vanished as if by magic, and he stood forth as the proud monarch of a Titanic race, “the parent of perpetual streams,” of “motionless torrents, silent cataracts,” his countenance suffused with rosy light, and his shoulders clothed with rainbows. The vision was indeed one of surpassing grandeur and magnificence—such as one may be favored with but once in a lifetime, and our dilating souls

sought expression for the emotion experienced, in the words of a hymn by Coleridge, inspired by a view of Mont Blanc from the vale of Chamouni:

“Rise, O ever rise,
Rise like a cloud of incense from the earth!
Thou Kingly Spirit throned among the hills,
Thou dread ambassador from Earth to Heaven.
Great hierarch! tell thou the silent sky,
And tell the stars, and tell yon setting¹ sun,
Earth, with her thousand voices, praises God.”

The vision of the stupendous mountain and its sky-pointing satellites was of brief duration. The sun dropped below the western wave, and the Cordillera was soon mantled by the rapidly-deepening gloom. Little was now visible except the Malecon of Guayaquil, which was gay with its long rows of lights, and the *Aduana*—custom house—which was brilliantly illuminated by a powerful arc-light suspended in front of its lofty tower. The Malecon, as it then appeared, was not unlike a midnight view, from a pleasure boat, of the brilliantly-lighted promenade that skirts the urban section of the bay of Naples.

A few paces from where we were standing was a bevy of happy, laughing, young school girls bound for Lima and Arequipa. They were returning from Europe and the United States, where they had spent several years in various schools and were all rejoicing in the thought of soon seeing the loved ones at home from whom they had been so long separated.

Among them was a bright young lady from Boston, who was going to South America for the first time—apparently as the guest of one of her companions. Everything seemed new to her and she fairly reveled in her tropical surroundings. The Indian balsas laden with fruit, and their owners, the towering palms with their graceful fronds, the Cordilleras with their prodigious peaks, all received in turn a

¹ The poet has “rising” sun.

share of her rapturous admiration. Her enthusiasm was as boundless as it was intense. When the things of earth had been veiled in darkness she directed her attention to the stars and constellations, which were as strange to her as they were familiar to her companions. But at last she espied one star and one constellation that she recognized.

"O girls!" she cried, "look! there is the Dipper. It is just above the horizon. Isn't it lovely? I never saw it so low before. Why, it is quite on a level with Guayaquil. And did you ever see the Pole-star shine so brightly? That, of course, is due to the transparent atmosphere of the tropics. Isn't it perfectly grand?"

The Peruvian girls shared the enthusiasm of their Boston friend. The Dipper was "lovely" and "grand," and the Pole-star was of unusual brightness.—But they had all forgotten that they were then more than two degrees south of the equator, and that the Pole-star was, therefore, quite invisible from where they stood. The Dipper which they saw was composed of some electric lights in front of the custom-house, while the bright Pole-star was the radiant arc-light in the tower. We then realized as never before the truth of the old saying, "Where ignorance is bliss, 'tis folly to be wise."

At dinner, after this interesting little episode, the passengers at the captain's table were much amused by an Italian engineer who insisted on giving at length his impressions of the Panama Canal. He had seen it only from the railway car, and had spent only a few hours in the Canal Zone, but that sufficed for him to arrive at conclusions diametrically opposite to those of the American engineers who have charge of the work. From his view-point everything was wrong, and the United States was undertaking the impossible. Indeed, he could not have said more against the enterprise if he had read some of the sensational articles written against it at the time our government began operations on the Isthmus.

A quiet old professor from New York, seeing that the

Italian's disquisition was assuming an unreasonable length, asked him if he was not surprised to find Panama east of Colon. The effect produced was as instantaneous as that of a percussion cap. The lecture on the canal was dropped at once, and the engineer forthwith proceeded to show the absurdity of the professor's question. "I did not," he said, "find Panama east of Colon. I found it west, as everybody else does. Panama is on the Pacific, isn't it?" addressing himself to the professor. Receiving an affirmative answer, he continued, "And Colon is on the Atlantic, isn't it?" The professor conceded that it was. "Well, then, everybody knows that the Pacific is west of the Atlantic. Ergo, Panama is west of Colon." The professor, however, insisted and maintained that Panama was not only east of Colon, but fully twenty miles east of that Atlantic port, as could be seen by consulting the map in the captain's chart room.

The Italian got excited. Violently striking the table with clenched fist, and eying the imperturbable New Yorker, he vociferated, "I will bet the champagne for all the passengers aboard, that Panama is west of Colon, and will leave the decision of the question to the captain."

Nothing more was said about the matter until the next evening at dinner, when the professor quietly asked the captain what brand of champagne he preferred. The captain replied that he thought *Pommery Sec* was about as good as any. The other passengers concurred with the captain, and the Italian, seeing that there was no escape—for he had consulted the map and found that he had been mistaken about the relative positions of Panama and Colon—called the steward and ordered *Pommery Sec* for all hands.

"It's all right!" interposed the Italian. "I'll soon get my money back from someone on this same question by betting differently the next time."

The professor, after serenely sipping the effervescent beverage, asked the Italian if he did not find it strange, while at Colon, to see the sun set in the Atlantic, and equally

strange while at Panama to see it rise on the Pacific. The Italian looked quizzically at his interlocutor, not knowing whether he was in earnest or whether he was indulging in badinage. Finally, however, he declared that he had not observed the phenomena referred to when he was in the Canal Zone, but that he would consult the captain's map and see whether they were possible or not. But he did not show the slightest inclination to fall into any more traps, or to spend any more money on champagne for the professor and his friends. He was willing to admit, although not in so many words, that there were still some things on the Isthmus of which he was ignorant. At any rate, we had no more free lectures on the Panama Canal, and no more criticisms of the engineers in charge. He was, however, heard to admit to the professor the following day that he was prepared, after inspecting the captain's maps, to believe that one could at Colon see the sun set in the Atlantic and rise on the Pacific at Panama.

Among the other passengers aboard, besides those already mentioned, was a number of civil and mining engineers from the United States and Europe. Most of them were young men just graduated from college, and were starting out to seek fame and fortune in South America. Some were going to the celebrated mines of Cerro de Pasco, in Peru; others were bound for Bolivia, to take part in the construction of the new railroad that is to connect La Paz with Buenos Aires. Not a few of them were employes of the Peruvian Corporation and of W. R. Grace and Company, that control such vast interests in various parts of the southern continent.

Among them was a newly-married couple on their honeymoon. The groom had spent the greater part of his life in Peru, but going to New York on business, became seriously ill and was confined to the hospital for several months. During his convalescence he and his nurse became engaged and were married shortly afterwards. The groom was past sixty but the bride was many years his junior.

They were most devotedly attached to each other, and the bride never tired speaking of the beautiful, cozy home that her husband had awaiting her on one of the islands some distance from the mainland. "He has planned it all himself," she proudly declared, "and I am sure we shall be perfectly happy there. There are but few people there, but that does not matter so long as I have Pepe"—her husband's name—"with me." To her, in her fond anticipations, that island home, all planned by Pepe, was a veritable bower in an ocean paradise.

The first Peruvian port reached after leaving Guayaquil was Tumbes. This had a special interest for me as it was for Pizarro and his gallant band the gate of the Peruvian empire. It is now but a poor village composed of a few squalid huts, but if we may credit the early chroniclers, it was, at the time of the first visit of the Spaniards, a place of great wealth and importance, and, as Cieza de Leon informs us, the capital of "a thickly peopled and well cultivated" region.¹ Besides having a strongly garrisoned fortress, it possessed a richly endowed convent for the Virgins of the Sun.

The gardens of the convent, according to Pedro de Candia, the Greek cavalier whom Pizarro commissioned to report on the place, glowed with imitations of fruits and vegetables, all in pure gold and silver,² while the temple was represented "as literally tapestried with plates of gold and silver."

Of these "imposing structures" of a favorite city of the famous Inca conqueror, Huayna Capac, not a vestige is now visible. Even in the time of Cieza de Leon, who visited the place in 1548, shortly after the advent of the Spaniards, Tumbes was little more than a mass of ruins.

¹ *La Cronica del Peru*, Cap. LIII, Madrid, 1906.

² Pedro de Candia contó, "Que habia visto un jardin de oro, donde habia muchas yerbas de Indias salidas al natural, de oro, y muchas frutas de lo mismo, y otras cosas que hoy ignoramos como pudiesen ser por no haber hallado los Castellanos de aquellos generos en tanta abundancia," Fernando Montesinos. *Anales del Peru*, Tom. I, pp. 62-63, Madrid, 1906.

A short sail from Tumbez brought us to our next port of call—Payta—a word which, according to the distinguished Peruvian geographer—Paz Soldan—signifies a desert, where nothing grows and where there is nothing. The only sign of vegetation of spontaneous growth is a species of *Mesembryanthemum*.

It was, however, at one time a place of great commercial importance. It was the port of entry of Piura—San Miguel de Piura, it was at first called—the first city founded by Pizarro in the empire of the Incas. This was in 1531. Until the foundation of Lima, Piura served as a military base for the Spanish invaders. But long after this, Payta was one of the chief ports of Peru. It was an important distributing point for merchandise for towns in the interior of the viceroyalty, but was more noted as the place at which passengers from Panama disembarked, to continue their journey by land to Lima. Owing to the powerful antarctic current and the strong southerly winds, which prevail the greater part of the year, the journey from Payta to Lima, by water, was long and arduous, and few people had the inclination or courage to make it. As a choice of evils they elected the land journey with all its discomforts and privations, and these were numerous enough to deter any but the stoutest hearts from undertaking it.

Jorge Juan and Antonio de Ulloa, writing of the disagreeable and fatiguing voyage from Payta to Callao, the port of Lima, declare that although the distance is but one hundred and forty leagues, “a ship is very fortunate to perform it in forty or fifty days; and even if after spending that time in continual labor, she be not obliged to return again to Payta; such accidents being very common; and it is nothing extraordinary to meet with two or three misfortunes of the same kind, successively, especially if the ship makes a great deal of leeway, when it is often a twelve months’ task.” They relate here a story to this purpose, that “the master of a merchant ship, who had been lately married at Payta,

took his wife on board with him, in order to carry her to Callao. In the vessel she was delivered of a son, and before the ship reached Callao, the boy could read distinctly. For, after turning to windward two or three months, provisions growing short, the master put into some port, where several months were spent in procuring a fresh supply; and after another course of tacking, the same ill fortune pursued him; and thus four or five years were spent in tacking and victualing, to the ruin of the owner, before the ship reached Callao.”¹

Considering the great difficulties encountered in reaching Peru, especially its more southern portions, it is surprising that the Spaniards were ever able to conquer and colonize it. For the difficulties referred to existed not only during the earlier period of the country but obtained almost until the War of Independence. They were successfully overcome only when steamships replaced sailing vessels.

Payta, which has one of the best harbors of the republic, is living in the hope of regaining the prestige she so long enjoyed as a commercial emporium. For years the people of Peru have been planning to connect by rail the head waters of the Amazon with the Pacific. Indeed, as early as 1843, shortly after the construction of the first railways in England and the United States, a certain Rudecindo Garrido, a Peruvian, conceived the idea of building a railroad between Payta and San Borja, a port on the left bank of the Upper Amazon, near the celebrated Pongo de Manseriche. And, extraordinary as it may appear, the route traced for this road by Sr. Garrido was almost exactly the same as that which finds most favor to-day, after the country has been thoroughly surveyed, and after many other routes have been recommended by various engineers of the highest standing in their profession.

The most surprising thing about Sr. Garrido's route is the low elevation at which it crosses the crest of the Andes. The Cordilleras are always thought of as very lofty moun-

¹ Op. cit., Vol. II, Book II, Chap. I.

tains throughout their entire length from Panama to Patagonia. As a rule, the chain is very elevated. Its mean height is more than eleven thousand feet, but there is one depression in it east of Payta which seems to have been providentially designed for a railway between the Pacific and the mightiest of rivers. This pass, near the village Huarmaca, is but seven thousand feet above sea level, but a short tunnel through the crest of the mountain will reduce this elevation to less than five thousand feet. This is less than the elevation of Denver, and a mile below Leadville and several of the railway passes of Colorado, and more than two miles below Galera tunnel, through which the railroad passes on its way from Lima to Oroya.

The length of the contemplated railway from Payta to the Amazon would be less than four hundred miles, and nowhere would there be more than a two per cent. grade. This is but one-half the grade of some of our Rocky Mountain roads, and only one-third of that of certain sections of the Guayaquil and Quito railroad. It would pass through a region of vast agricultural and mineral resources, which hitherto has been completely neglected. It has been estimated that its iron ore deposits—some of it magnetite of the best quality—amount to several hundred million tons—enough to supply the whole of South America with iron for centuries to come. In close proximity to them are all the coal and carbonate of lime necessary for the smelting of the ore, and sufficient petroleum for supplying the locomotives with fuel for an indefinite period.

But the greatest advantages that would accrue from the construction of such a road would result from putting the immense Amazon basin, with its countless treasures of all kinds, within easy reach of the great commercial centers of the United States. This would be especially true after the completion of the Panama Canal. Then one could go from New Orleans to Payta in six days and to Iquitos, Peru's greatest commercial center on the Amazon, in nine days,

whereas the time now required for the journey from New Orleans is a month, at least.

Great, however, as would be the value of the Payta-Amazon railway to the general commerce of the world, its value to Peru would be incomparably greater. If one now wishes to go from Lima to Iquitos with any comfort, he must go by way of New York or Liverpool. It is, of course, possible to cross the Cordilleras and go thither directly, but the journey is so arduous that only the most resolute are ever willing to undertake it. With the Payta railroad completed, the trip from Lima to Iquitos could be made in four or five days.

As matters now stand, *El Oriente*—as the eastern part of Peru is called—is practically cut off from the rest of the nation. When one learns that the Oriente constitutes fully one-third of the republic, and that it embraces the most fertile lands of Peru, one can realize that the economic interests of the nation demand direct railway connection between its eastern and western possessions, and that such connection can not be effected too soon. The marvel to the traveler in Peru is that this road, so essential to the development of the nation's immense resources in the Upper Amazon, has not long since been an actuality.

More than this. To one who has any acquaintance with the history of South America, a railroad in the north of Peru, from the Pacific to the Amazon, seems to be a military necessity that cannot be ignored. Important as it undoubtedly would be for exploiting the treasures of field and forest and mine, it would be still more important as a means of defense against possible encroachments on the part of its northern and eastern neighbors. It would avail more in settling boundary disputes than all the *cedulas* to which the rival nations could appeal. When the Payta-Amazon railway shall be completed—not until then—will the people who have so long been separated by the Andes from the rest of Peru feel that they really constitute an integral part of the once vast empire of the Incas.

The road can be built for a sum not exceeding \$10,000,000. For a syndicate looking for a promising investment the Payta-Amazon railway seems exceptionally attractive. Now, that the stability of the government seems to be assured, and that investors can have all reasonable guarantees of protection, there is no doubt that in the very near future foreign capitalists will become interested in the enterprise, and it would not be surprising if a connection were made between the Pacific and the Atlantic by way of the Amazon, shortly after the opening of the Panama Canal.

When this day shall arrive, and all friends of progress hope it will be soon, Payta will regain its lost glory and will, with a bound, take its place among the leading ports of the Pacific coast. Then will her happy and prosperous people behold in their beautiful harbor the ships of every nation, and then, with the Peruvian poet, José S. Chocando, will her merchant princes sing of

“La turba que entonces de los puertos vibrantes
De la Europa Latina llegará a esa región,”

and of

“Las naves que el vapor estimula
De Occidente y Oriente, Sur y Norte vendran,
Como iban al Faro que elevó Alejandria
Los alados veleros de la Clasica Edad.”¹

I have said, quoting Paz Soldan, that Payta signifies a desert where nothing grows. It doubtless derived this name from its location in a sandy plain. But Payta is not exceptional in this respect among the coast towns of South America. It is rather the rule than otherwise, for most of the towns between Tumbez and Valparaiso—a stretch of

¹ “The multitude that will then come to this region from the busy ports of Southern Europe. Steam-driven ships will come from West and East, North and South, as the winged craft of the classic age went to the Pharos of Alexandria.”

two thousand miles—are similarly situated. Indeed, with the exception of a few verdant valleys and irrigated plains, the entire coast-land of Peru and more than half of that of Chile is a desolate, treeless waste. In some sections—notably in the deserts of Sechura and Atacama—the land is as arid and as unproductive as in any part of Sahara. All the early Spanish writers, from the time of Cieza de Leon, were deeply impressed with this feature of the coast, especially Acosta, who writes—“This parte of the world which we call Peru is very remarkeable, and containes in it strange properties,” one of which is “that it never rains, thunders, snows nor hailes in all this coast, which is a matter worthy of admiration.”¹

Acosta, however, is not to be taken literally when he says it never rains. It is, nevertheless, quite true that it rains very rarely, and then the amount of precipitation is usually very small. In the deserts, properly so called, to the south of Piura, in the plains of Ica and in the pampa of Tunga, there is a total absence of rain for twenty or thirty years at a time. When Boussingault visited the northern part of the Peruvian coast in 1832 he found that there had been no rainfall during the preceding eighty-eight years.

During these terrible droughts the sky turns to brass, and there is a total absence of those beautiful cloud effects which adorn the skies of other lands. As may readily be imagined, these protracted periods of aridity are frequently the cause of immense losses to the inhabitants and of much suffering to man and beast. Water, then, in many places is difficult to procure and must often be brought from great distances on the backs of man or animals. In Piura there is a saying that “each drop of water that falls from heaven is sufficient for a goat.”

Sometimes, however, these long periods of drought are succeeded by rainstorms of extraordinary violence. Thus, after the storm of 1803 seventy-four years elapsed before thunder was again heard in Lima, but, towards the end of

¹ Op. cit., Lib. III, Cap. XX.

1877, thunder and rain broke upon the city with such fury that the inhabitants thought it would be laid in ruins.

Captain Maury, in his work, *The Physical Geography of the Sea*, explains this extraordinary phenomenon of a rainless coast bordering the world's greatest ocean as follows: "The reason," he declares, "is plain. The southeast trade-winds, in the Atlantic Ocean, first strike the water on the coast of Africa. Travelling to the northwest, they blow obliquely across the ocean until they reach the coast of Brazil. By this time they are heavily laden with vapor, which they continue to bear across the continent, depositing it as they go and supplying with it the sources of the Rio de la Plata and the southern tributaries of the Amazon. Finally they reach the snow-capped Andes, and here is wrung from them the last particle of moisture that the very low temperature can extract.

"Reaching the summit of that range they now tumble down as cool and dry winds on the Pacific slopes beyond. Meeting with no evaporating surface, and with no temperature *colder* than that to which they were subjected on the mountain tops, they reach the ocean before they again become charged with fresh vapor, and before, therefore, they have any which the Peruvian climate can extract. The last they had to spare was deposited as snow on the tops of the Cordilleras, to feed mountain streams under the heat of the sun, and irrigate the valleys on the western slopes."¹

This explanation, however, although plausible and the one generally accepted, is not satisfactory; for it does not hold good for the coasts of Ecuador and Colombia, which are covered with a dense and exuberant vegetation. The physical basis for a true explanation was furnished by Humboldt when he made his celebrated observations on the temperature and direction of the great antarctic current, which now justly bears his name. He discovered in 1802 that the temperature of the ocean at Callao was 7.5° C. lower than that of the superincumbent atmosphere, but he does not

¹ Pp. 93-94, New York, 1856.

seem to have recognized the full import of his discovery. He recognized the effect in lowering the temperature of the coast line, but did not apparently realize that it was the chief, if not the sole cause of the aridity of the lands which it washes.

The proof that the Humboldt current is the real cause of the arid condition of so great a stretch of land on the Pacific coast is the fact that the desert begins where the current first strikes the coast near Coquimbo in Chile, and ends where the current veers towards the west at Cabo Blanco in northern Peru. The broad and deep antarctic current so effectually collects the moisture from the superincumbent air currents that when they reach the littoral, whose temperature is several degrees higher than that of the air, precipitation is impossible, except in the more elevated portion of the Cordilleras and even there it is very slight. Only during the winter season, when the temperature of the air and the land approaches equilibrium, are *garuas*—mists—engendered in the lowlands, and only then are occasional rainfalls possible in the higher slopes of the western Cordillera. These, however, are not sufficient to excite vigorous vegetation or to produce dense forests like those which are found in the southern and northern parts of the Pacific coast where the influence of the Humboldt current is not felt.

Along the littoral of Ecuador and Colombia the case is the very opposite of what obtains in Chile and Peru. There the temperature of the ocean—between 28° and 29° C.—is much higher than that on the adjacent land, and hence those frequent and abundant rainfalls which are so characteristic of this region.

So great, indeed, is the influence of the Humboldt current on the climate of the Pacific coast that it can be asserted positively that if it were to continue its course along the land as far northwards as Panama, the entire littoral of Ecuador and Colombia would be as much of a desert as is that of Peru and Chile. If, on the contrary, the Peruvian

coast were washed by a tropical sea of normal temperature, like that bordering Ecuador and Colombia, the present desert wastes of Peru would immediately be adorned with richest verdure and the most luxuriant of forest growths.

Peru, however, does not purpose waiting for the Humboldt current to change its course in order to have blooming gardens and smiling haciendas. For some years past the government and private companies have given much attention to irrigation, and many extensive tracts, that before were barren areas, are now under cultivation, and are a source of rapidly increasing revenue to their owners as well as to the national government. From the northern to the southern boundaries of the republic large reservoirs are being constructed, and thousands of acres of arid waste are annually being converted into fertile rice fields, and productive cotton and sugar plantations. New irrigation canals cross the reclaimed lands in every direction. But often the long-abandoned Inca conduits are repaired and, after centuries of disuse, are again pressed into service as potent factors in the reclamation of extensive areas that have been entirely neglected almost since the time of the Spanish conquest.

We never wearied gazing at the Andes, which at a distance looked like a regular bastion, surmounted at intervals by lofty pinnacles of crystalline rocks, or extinct or dormant volcanoes. Sometimes they were separated from the Pacific by a narrow plain, but at others the massive barriers invaded the sea and plunged sheer into the abyssal depths of the boundless ocean. Like Dampier, we were often amazed at their "prodigious height." This was particularly the case when the precipitous flanks of the wondrous chains mounted skyward from the ocean's wave. And the color effects of the vast rock-masses were in keeping with the grandeur of the scene; for everywhere there was.

"A splendor of purple hills that touch the sky,
A vastness like the spaces of the sea."

But nowhere along the coast did we see "in the mighty ranges of the Andes" those "stupendous surges of ice, like some vast ocean that had been suddenly arrested and frozen up in the midst of its wild and tumultuous career," that Prescott describes, and still less did we see them at the point where the distinguished historian locates them—near Piura—for in this part of the Cordillera, as we have seen, is the lowest depression in the entire Andean chain between northern Colombia and southern Chile. As the line of perpetual snow in the western Cordillera of Peru is never below fifteen thousand feet, and is usually considerably higher than the summit of Mont Blanc, the voyager along the coast never sees snow on the mountains except where

"Old Andes thrusts a craggy spear
Through the gray clouds,"

and such peaks are so rare that one might travel from the northern to the southern boundaries of the republic without seeing more than three or four of them. Prescott's Andes, "whose frosty sides far above the clouds, spread out like a curtain of burnished silver, that seemed to connect the heavens with the earth," is a striking picture, but it was never seen by Pizarro and his followers from the coast land, nor by any one else since their time. Only on the lofty tableland of the interior may the traveler occasionally be favored with such a view, but never, as the brilliant author of *The Conquest of Peru* imagined, from the lowlands of the Pacific.

CHAPTER VII

WONDERS OF SEA AND MOUNTAIN

One evening, as the sun was about to dip into the ocean, the passengers were aroused by a shrill cry of "Whales! Whales!" raised on our starboard quarter by the bevy of star-gazing girls who had attracted so much attention in the harbor of Guayaquil. As usual, the young lady from Boston was the most enthusiastic in her demonstrations of interest. Sure enough, only a few hundred feet distant was a large school of spermaceti whales, old and young, disporting themselves in the deep, and spouting columns of vapor and water to a height of from ten to twenty feet. Nearest to us was a colossal male—an "old bull," as whalers would call it—fully eighty feet in length, with a mouth large enough for a jolly-boat and her crew to float in, and a perfect type of Milton's leviathan,

"Happily slumbering on the Norway foam."

He quite ignored the excited spectators, who at once brought their cameras and field-glasses to bear on him, and leisurely continued his course, while his "spoutings," which were of such violence as to be distinctly audible from where we stood, were vivid reminders of the vigorous geyser displays of New Zealand or of the Yellowstone Park.

"Perfectly grand! Simply stupendous!" ejaculated the Boston girl, who was visibly excited by the novel spectacle. "Yes," chorused her Peruvian friends, "*maravilloso! Estupendo!*"

Shortly after these monsters of the deep had passed from our view we were favored with another exhibition of a different character, one that is never visible in all its

splendor except in the regions of the equator. Scarcely had the brief, tropical twilight terminated its existence when there shot up from the ocean a beautiful semi-elliptical figure that the Boston maiden told her companions was the Milky Way. They were of the same opinion. But it was not the Milky Way and it did not resemble it either in form or color or position in the firmament. The Italian engineer, who was present, suggested that it might be one of the great nebulae of the southern hemisphere. But his statement was wider from the truth than that of the fair Bostonian. Being in doubt about the matter the question was referred to the professor, who had, by consent, been accepted as the arbiter of all disputes. He, too, was as much interested in this splendid phenomenon as any one aboard.

When interrogated as to the nature of the apparition, he replied without hesitation: "It is the zodiacal light, but to-night it is of unusual magnitude and brilliancy."

And so it was. Rising from the western horizon, where the sun had dropped below the ocean's edge, it rose majestically on both sides of the ecliptic until it reached the zenith. In the center was an effulgent cone surrounded by two other cones of gradually decreasing brightness. The middle portion was much brighter than is the galaxy in our northern latitudes,—bright enough, indeed, to eclipse the stars of the lower magnitudes. And unlike the cold, white color of the galaxy, the zodiacal light, as we then saw it, was characterized by a warm, orange-red glow, that resembled somewhat the delicate crimson tints of the aurora borealis. Presently, to the east of it, we saw the rare, mysterious *gegenschein*, or counter-glow, that seemed to be a faint reflex of the zodiacal light itself. Rising towards the zenith the two luminous bodies seemed to be united by a narrow nebulous band of light.

I had frequently admired the zodiacal light during clear moonless nights, while traveling in the Andean highlands, but I had never witnessed a display comparable in extent

and gorgeousness with that which delighted our astonished gaze during that memorable hour on the South Pacific. It forcibly reminded me of Donati's wonderful comet which, a half century before, had so fascinated my youthful mind, that I was wont to contemplate it for hours with ever-increasing interest and delight. One may occasionally see the zodiacal light in our northern climes, after twilight in winter and spring, and before dawn in summer and autumn, but one is never favored by such a magnificent display of light and color as greets the fortunate traveler under the serene heavens of equinoctial zones.

"What a pity our Harvard astronomers cannot behold such a glorious spectacle!" exclaimed the patriotic Boston girl. "It is grandiose, magnificent"—"Yes," echoed the Peruvian señoritas, "*grandioso, magnifico.*"

After stopping at various ports along the coast to take on freight—chiefly cattle, sugar and rice—and passengers, we finally arrived at Callao, the port of Lima, five days after leaving Guayaquil. I disembarked here, as I wished to spend a few days in Lima before continuing my journey southwards, my purpose being to visit Bolivia and southern Peru before devoting attention to Lima and the central and eastern parts of the republic.

But, although my first visit to the City of the Kings was of brief duration, it was long enough to permit me to take a trip over the famous Oroya railroad—the most remarkable piece of railway engineering in the world. Its construction is due chiefly to the initiation and tireless energy of that remarkable American railway builder, Henry Meiggs, who seemed to possess the astuteness of a Jay Gould, the foresight and breadth of view of a James J. Hill, and the munificence of a Monte Christo. It is decidedly one of the most interesting achievements of Peru, and one of the first things that the visitor to Lima makes an effort to see.

Thanks to the courtesy of the manager of the Peruvian Corporation, which controls most of the railroads of the

republic, we—a party of four Americans—were able to make the trip over the road in a special train. We were thus able to inspect at our leisure the chief points of interest along the road, and to enjoy the unrivaled scenery in a way that would otherwise have been impossible.

One of the members of the party was a prominent official of Yale University, who has since been appointed to a responsible position under the federal government in Washington. There was also a young married couple from Philadelphia, who were going to take up their residence in a small town in the Cordillera, where there was a large smelter, in which the young husband, who was an electric and mining engineer, was to be superintendent. He had been a noted football player when at college, while the young bride had won high honors at Bryn Mawr, in language and literature. She was a typical American girl, alert, self-reliant, courageous and cultured—fully equipped for any position to which she might be called.

Our train left Lima shortly after six o'clock in the morning, and we were soon in the midst of the sugar and cotton plantations of the Rimac valley, along which the road is built on its way up the steep slope of the mountain barrier which separates the littoral from the lofty plateau in the region of the clouds. While in the lowlands a heavy mizzle—the *garua* of Peru—precluded a view of the towering barrier before us; but, no sooner had we attained a certain elevation on the foothills, when we suddenly emerged from impenetrable mist into brightest sunshine. Above us was the lofty Cordillera standing out in bold relief under the full effulgence of the morning sun, while below us, the *garua*, which resembled an undulating sea, concealed from our view the verdant plantations through which we had just passed. The *garua*, which covers the coast land like a mantle—rarely rises higher than twelve hundred feet, while its upper surface is usually several hundred feet below this altitude. For this reason it is seen only along the sea coast. Where it prevails, there is a slight drizzle



MOUNTAIN TOWN ON OROYA RAILROAD, SHOWING ANDENES.

during the winter season, but there is rarely or never rain.

“The boundary line between the rain and the mist,” says Tschudi, “may be defined with mathematical precision. I know two plantations, the one six leagues from Lima, the other in the neighborhood of Huacho; one half of these lands is watered by the garuas, the other half by rain, and the boundary line is marked by a wall.”¹

From what has been said of the influence of the Humboldt current on the climate of the Peruvian coast, the explanation of this extraordinary phenomenon is apparent. When during the winter months—from May to October—the temperature of the earth becomes slightly lower than that of the superincumbent atmosphere, we have the slow-forming garua which spreads over the land for weeks at a time. When, on the contrary, the temperature of the atmosphere is considerably below the point of precipitation, which always obtains in the higher latitudes, there is rain.

The scenery along our route was much like that of the cañons and mountain passes of the Rocky Mountains, except that there was almost a total absence of vegetation, save on the narrow strip of land bordering the Rimac, and in the carefully cultivated *andenes*—little terraced plots of ground—which are perched high up on the precipitous slopes of the mountains. One never tires admiring the patience and industry of the Indians who climb to these dizzy heights to till, at the cost of enormous labor, tiny patches that can yield but little and which require constant attention to be cultivable at all. Seen from a distance, these terraces resemble somewhat the vineyards along the banks of the Rhine, or on the mountain flanks of Italy; but they seem so inaccessible that one wonders that any one ever attempts to bring them under cultivation. The labor involved in building the retaining walls and in keeping them in repair is stupendous, and no one would undertake

¹ *Travels in Peru*, p. 173, New York, 1854.

it except the laborious, persistent descendants of the Incas.

From the time the train leaves the coast land until it reaches Galera tunnel, which pierces the crest of the Andes, there is a continual climb, and the grade is very heavy—frequently above four per cent.¹ From Callao to Galera is but one hundred and two miles, but during that distance the train rises skyward nearly three miles. There are in this stretch of road thirteen switch-backs and fifty-seven tunnels—through the solid rock and through jutting precipices so high above the raging torrent as to seem accessible only by the daring condor.

The cost of the first eighty-six miles is said to have been \$300,000 a mile, making it the most expensive road for its length ever constructed. I am familiar with all the engineering feats exhibited by the railroads of the United States and Europe, but I know of nothing that is comparable with the stupendous achievements that constantly startle the traveler as the train winds its way over the swinging bridges that span the awful chasms which are met at every turn of the Oroya railroad.

We stopped on one of these aerial bridges to take some photographs and to view at leisure the sublime scenes above and around us. The place was aptly named *Infernillo*—Little Hell.

“How such a view as this,” exclaimed the bride, “would have appealed to the poetic soul of Dante! Could he have beheld such an abysmal gorge as this we should have an added terror in his awful Inferno.”

I then discovered, to my delight, that the bride was a great admirer of the immortal Florentine; that she had made a special study of the *Divina Comedia*, while at college, and that she still retained all her first love for this

¹ A hand-car started at Tielio, the station at the western entrance of the tunnel, will run unaided to Callao, and, as a matter of fact, such a car, equipped with safety-brakes, and carrying an inspector on the lookout for fallen rocks and other dangers, precedes each passenger train on its way from Galera to the Pacific.

matchless poem. With such a bond of union between us, we became friends from that hour.

At the town which was to be her future home—a place more than two miles above the sea—we were joined by two other Americans—a gentleman and his wife, both of whom had lived for some time in Peru. Continuing our way upwards toward the summit, we finally reached the celebrated Galera tunnel, which is less than two hundred feet below the summit of Mont Blanc, the highest peak of the Alps.¹

While contemplating our engine in these “high Peruvian solitudes among,” whose progress was always onward and upwards, we recalled the beautiful poem of the Peruvian poet Salaverry on *La Locomotora*—the locomotive—which begins as follows:

“Ni el condor de los Andes, que alza el vuelo
 Desde su nido hasta la azul region,
 Y rasgando la tunica del cielo
 Hiende las nubes que alumina el sol;

 Ni el aeronauta audaz . . .

 Aventajan al monstruo en la carrera
 Con sus alas de fuego y de vapor.”²

As we emerged from the eastern end of the tunnel we were greeted by a vista that was truly magnificent—such

¹ Galera tunnel, 15,665 feet above sea-level, was for a long time the highest point in the world attained by any railroad. This altitude, however, has recently been surpassed by that reached by the Morococha branch, which leaves the main line at the western entrance to the tunnel and rises to a height of 15,865 feet, nearly a third of a mile higher than the summit of Pike's Peak. It is also lower than Collahuasi, on the narrow gauge railway between Antofagasta in Chile and La Paz in Bolivia. On this line the locomotive rises to a height but fifty-six feet lower than the most elevated point on the Peruvian road.

² “Neither the condor of the Andes that towers above his ærie to the blue empyrean, and, rending the sky's vesture, opens a passage through the sunlit clouds . . . nor the bold aeronaut . . . surpasses this monster in his flight on the wings of fire and steam.”

a vista as is found only in the highest mountains where the earth seems to touch the sky. Before us, within the extended range of vision that was possible from our lofty view-point, were undulating plateaus intersected by countless mountain streams starting on their way to the mighty Amazon, and nearly half a mile above us towered the summit of Mount Meiggs mantled with eternal snow. Several of us were specially interested in observing the incipient stage of a tiny streamlet that was just starting on its long journey to the far-off Atlantic. Near by another streamlet had its birth, but its destination was the nearer Pacific.

There were, however, two of our party who were unable to enjoy the splendid views that so captivated the rest of us. Long before reaching the summit they had succumbed to *soroche*—mountain sickness—that mysterious disorder peculiar to high altitudes, and which, in spite of all the investigations so far made, seems to be as little understood as sea-sickness. And strange as it may seem, the first one to be affected by the malady was the athlete of the party—the ex-football player. He suffered ever-increasing pain until finally he was completely prostrated. While the others were enjoying the ever-changing panorama visible from our car, he was struggling with vertigo and nausea, feverishness, and feeling as if the top of his head were about to blow off. Fortunately, he did not experience the other effects—bleeding at the nostrils, ears, eyes and mouth, weakness of sight and hearing and the fainting fits from which many persons suffer when in great altitudes.

Mal de montagne usually makes itself felt at an altitude of between fifteen and sixteen thousand feet above the sea. Sometimes it appears as a headache, which gradually increases in intensity, or as an indescribable feeling of malaise pervading the greater part of the body. At other times it attacks one suddenly and is accompanied with depression and weakness, nausea, vomiting and hemorrhage.

Some people are affected at much lower altitudes than

that just mentioned, while others are immune until much higher elevations are attained. Fitzgerald, the experienced Alpine traveler, was forced to relinquish his attempt to reach the summit of Aconcagua, one of the highest—if not the highest—peaks of the Andes when within only a few hundred yards from the coveted goal. “I tried,” he informs us, “more than once to go on, but I was able to advance only two or three steps at a time and then I had to stop, panting for breath, my struggles alternating with violent fits of nausea. At times I would fall down, and each time had greater difficulty in rising; black specks swam across my sight; I was like one walking in a dream, so dizzy and sick that the whole mountain seemed to be whirling round with me.”¹

Padre Acosta, who is one of the earliest Spanish chroniclers to describe the effects of *soroche*, gives a very graphic description of his experience with it in the mountains of Peru. “There,” he tells us, “the ayre and the wind that rains make men dazie, not lesse, but more then at sea. . . . I was suddenly surprised with so mortall and strange a pang that I was ready to fall from my beast to the ground and with such pangs of straining and casting as I thought to cast up my soul too.

“And no doubt,” he continued, “but the winde is the cause of this intemperature and strange alteration, or the aire that raignes there . . . I, therefore, perswade my selfe that the element of the aire is there so subtile and delicate, as it is not proportionable with the breathing of man, which requires a more gross and temperate aire, and I beleeeve it is the cause that doth so much alter the stomacke and trouble all the disposition.”²

Explanations similar to this were accepted until the memorable experiments of Paul Bert, recorded in his bulky tome, *La Pression Barométrique*, published in 1878. In this work Mr. Bert contends that *mal de montagne* is due to an

¹ *The Highest Andes*, p. 82, London, 1899.

² Op. cit., Lib. III, Chap. IX.

insufficient supply of oxygen, and that the malady can be prevented by inspiring this life-giving gas in sufficient quantity.

Mr. Whympers, however, joins issue with Mr. Bert, and maintains that mountain sickness is due to diminished atmospheric pressure, and the expansion of air or gas within the body which causes it to press upon the internal organs.¹ According to other investigators *soroche* is of chemico-nervous origin, and they point in support of their theory to the fact that instantaneous relief is afforded to one suffering from the malady by administering a kind of cocoa tea such as is prepared and used by the Indians in the Andean highlands.

On our return to Lima we left the bride and groom at their mountain home—nearly twelve thousand feet above the Pacific. The bride had enjoyed every moment of her visit to cloudland, for she did not in the slightest degree experience any of the distressing effects of that terrible *soroche* that so thoroughly prostrated her athletic husband. He, poor fellow, was so completely incapacitated that he had to be put to bed as soon as he left the train.

As for my Yale companion and myself, we felt no inconvenience whatever from the change of pressure, aside from the increased difficulty of breathing, due to the rarity of the atmosphere. Even this was scarcely perceptible, except when accentuated by physical exertion of some kind. And I may be permitted to add in this connection that I have never suffered from mountain sickness, even when I was several thousand feet higher than I ever was while crossing the lofty crests of the Cordilleras. Some constitutions—and these are not always the most rugged, by any means—seem to resist *soroche* better than others, just as some persons escape sea-sickness, while others, who are much stronger physically, succumb to the first ocean swell.

In going from Callao to Mollendo, our last objective

¹ *Op. cit.*, Chap. XIX.

point on the rainless coast, I was fortunate enough to secure passage on one of the steamers of the Cosmos Line, so favorably known for its well-trained corps of tidy, attentive and affable officers and stewards,—men who are not unlike those who contribute so much to the comfort of the passenger on the best of the trans-Atlantic liners. And then there were no bellowing cattle on board, as on many of the other steamers on the west coast, to make night hideous and sleep impossible. It is safe to say that if the Cosmos Line, as is to be hoped it will, once decides to reach out for the passenger business of the south Pacific coast, it will at once secure a fair share of the patronage of the traveling public.¹

Although we stopped at several ports between Callao and Mollendo, we saw little to arrest our attention outside of the famous Chincha Islands, about one hundred miles south of Callao. These are small, barren rocks, but it may well be doubted whether any equal area of the earth's surface has yielded a greater amount of treasure. They, from time immemorial, have been the favorite home of the so-called guano² birds—pelicans, sea gulls, marine crows and cormorants—which have made those immense deposits, almost two hundred feet deep in places, that, for more than half a century have supplied the world with its richest and most prized fertilizer. It is estimated that the total value of the manure taken from these small islands up to date has not been less than one billion dollars. The amount of guano taken from them between 1853 and 1872 amounted to no less than eight million tons, which fetched from forty to seventy dollars a ton.

But this is only one of several groups of guano islands

¹ From present indications, the Peruvian Steamship Company, recently inaugurated, promises to be the most popular line on the west coast of South America. It has fast and commodious turbine steamers that are capable of making the trip between Callao and Panama in about half the time required by the vessels of its competitors.

² From *huanu*, the Quichua word for manure. Llama, pampa, condor, coca, and quina are other Quichua words introduced into English.

found all along this wonderful rainless coast from Los Lobos to Tarapacá. These, too, have contributed to the markets of the world their millions of tons of fertilizer, and still the deposits are not exhausted. More than this. New deposits are continually being made by the millions of birds that frequent these islands. To enable the reader to form some idea of the countless myriads of birds that congregate on these rocky islets for purposes of roosting at night or rearing their young, it suffices to state that no less than five thousand tons of guano are annually deposited on a single one of the Chinchas Islands, and that on an area not exceeding fifteen acres in extent. So immense are the flocks of birds that fish in their neighborhood that the sky is frequently darkened by them, and one would imagine that the whole ocean would not suffice to supply them with means of subsistence. But so prolific are its waters in fish of all kinds that the guano birds find all the food required, without going any great distance from their favorite haunts. And this, notwithstanding the fact that these ichthyophagous gormands have been drawing sustenance from these waters for hundreds, probably thousands of years.

Although guano was extensively used as a fertilizer during the time of the Incas, it was practically lost sight of after the conquest until the time of Humboldt. Its true value, however, was not recognized until some decades later, when Justus von Liebig, the father of agricultural chemistry, definitely determined its importance as a fertilizer, and at the same time demonstrated that it was one of the greatest assets of the republic of Peru. Had the Peruvian government adopted wiser methods in exploiting these valuable deposits, and enacted suitable laws for their conservation, and then employed the immense wealth accruing from the sale of guano, in developing and building up a merchant marine and navy, she would to-day be, in proportion to her population, second to none of the republics of South America. It is only recently that she has

enacted laws looking towards the preservation of her guano deposits. In doing this she has done little more than revive the old Inca regulations which enforced rotation in digging and protected the birds by closed seasons.

"In the times of the Kings Incas," writes Garcilaso de la Vega, "such care was taken to preserve these birds, that it was unlawful for any one to land on the islands during the breeding season under pain of death, that the birds might not be disturbed or driven from their nests. Nor was it lawful to kill the birds at any time either on the islands or elsewhere under pain of death."¹

This is one instance in which the Peruvians of to-day can learn from their Inca predecessors of four centuries ago.

¹ *Comentarios Reales*, Lib. V, Cap. III, Madrid, 1725. So great, according to Garcilaso, were the heaps of manure that, from a distance they seemed like the peaks of a snowy mountain—*puntas de alguna Sierra Nevada*.

CHAPTER VIII

LA VILLA HERMOSA

We dropped anchor in the harbor, or rather in the roadstead of Mollendo, shortly after midnight. As the sea was very rough—it is nearly always rough here—no attempt was made to land the passengers until the following morning. While I was dressing in my cabin, and wondering how I could reach the landing-place, which was about a mile distant, someone knocked at my door. This somewhat surprised me, as my steward never disturbed me in the morning until I called for him. On opening the door I was saluted by a stranger who handed me a telegram. This increased my surprise. I was not expecting a message from anyone and could not imagine whence it came. Imagine my astonishment and pleasure when I learned its contents. It was from the president of the chamber of deputies in Lima, instructing the collector of the port at Mollendo to show me special attention, and to render my stay there as pleasant as possible. “La chalupa,” said this official, “esta esperando á Vd quando Vd quiera salir”—“a boat is awaiting you when you are ready to go ashore.”

“This,” I exclaimed, “is truly Peruvian hospitality!” It should not have surprised me, because I had received so many gratifying evidences of it before; but under the circumstances, when least expected, it touched me deeply. It was, however, but the beginning of many similar acts of thoughtful kindness, in little and great things, which contributed so much towards making my travels in Peru so pleasant and profitable.

I was soon in the gayly decked boat of the *Comandante del Resguardo de la Aduana*—which was manned by a half

dozen uniformed oarsmen—and in a short time I found myself the guest of the Mollendo Club, in the midst of a most charming body of men, several of whom were Americans connected with various business houses of this important shipping point.

After a half day spent in Mollendo, during which I was given a delightful breakfast at the club, I was ready to start for Arequipa. Arrived at the depot of the Southern Railway of Peru, I met with another surprise. I was escorted into a richly-upholstered Pullman car, and told that I was to consider myself the guest of the *Ferro-Carriles del Sur del Peru*. The agent then informed me that he had received instructions from headquarters to extend to me all the courtesies of the road, and the delicate manner in which he executed his commission gave an added charm to all he said and did. I began then to realize, more than ever before, that I was among a people whose hospitality has been proverbial from time immemorial and that, while in their midst, I could truly feel at home.

After leaving Mollendo we went far enough towards the southeast to get a view of the fertile and verdant valley of the Rio Tambo, when the train, veering towards the north, started across the arid pampa of Islay. We could then see how appropriately the long, rainless coast, of which an account has been given in the preceding chapter, has been called the Sahara of Peru. Outside of the few narrow strips of vegetation along the valleys, and the occasional haciendas that have been rendered fruitful by irrigation, the pampa of Islay is a picture of desolation made desolate. This is particularly the case when one crosses the desert plain under the scorching, vibrating heat-waves of the noonday sun of the hot season, and when a stiff breeze from the ocean picks up and carries before it clouds of sand and volcanic dust, which are sufficient to suffocate both man and beast, unless they can immediately find suitable shelter. The impalpable dust, with which the lurid sand clouds are surcharged, penetrate everywhere. It in-

flames the eyes and parches the tongue and throat so as to inflict indescribable torture.

No wonder then that so many tragedies have been written in so many stretches of this rainless coast, and that these treacherous wastes are strewn with the bleaching bones of countless unfortunates!¹ Considering the forbidding character of this burning, suffocating plain, it is not surprising that the Indian attributes the curiously-shaped sand formations which are everywhere visible to the caprice of passing demons. Occasionally, when the heat is great, one will hear musical notes proceeding from these strangely-fashioned hillocks like those issuing from the musical sands of Hawaii and Mount Sinai. The sound is due to the vibrating molecules of the heated sand, but the natives, ignorant of its true origin, attribute it to boiling water in the interior of these formations and hence their name "water volcanoes," for these uncanny, sonorous mounds.

Among these formations the traveler's attention is sure to be arrested by what are known in the country as *medanos*. These are shifting sand dunes in the form of a crescent, as sharp and perfect in outline as the moon in its first quarter.

They are of all sizes, from a few feet to twenty or more feet in height. At one time one will see only a few of them, at others the plain is covered with them—giving the desert the appearance of an ocean covered with fossilized waves. Under the action of violent winds the *medanos*

¹ While traveling in the Peruvian desert I often wondered why camels were not used in it. I have since read in the *Apuntes Historicos*, pp. 96, 97, of Gen. Mendiburu, that these "ships of the desert" were introduced into Lima and Ica as early as 1552. They became readily acclimated, but, their owners not knowing how to take care of them, the experiment did not prove successful. Most of the animals escaped to the mountains where the negroes killed them for food. The last two camels died in 1575. Camels were also introduced into Venezuela, and Humboldt suggested their use for transporting freight across the Isthmus of Panama. "L'introduction des chameaus seroit le moyen le plus sur de diminuer les frais de transport." Op. cit., Vol. I, p. 251.

move rapidly over the plains with an almost irresistible momentum. In the course of their extraordinary migrations they sometimes encounter the railroad, and then the employés have a difficult task before them to keep the track sufficiently clear to permit the passage of trains.

But, although this costal belt is so desolate, the dry,¹ ocheros dust and sand areas can, under the influence of rain or irrigation, be made to bloom in a night. From a barren desert it is at once converted into a land that is as productive as the valley of the Nile. This is clearly evidenced in the rapidly-increasing tracts which are being reclaimed by irrigation. While the amount of water supplied by the rivers is not nearly adequate to irrigate the extensive desert belt between the Pacific and the Cordillera, it has been discovered that artesian wells can be made efficient agents in the work of reclamation in the Sahara of Peru as well as in the Sahara of northern Africa, and from present indications, this neglected means of vegetation is hereafter to receive much more attention than hitherto.

But notwithstanding the aridity and desolation of the Peruvian desert it is, in some respects, the most productive land in the world. And the remarkable fact is that its value is due entirely to its lack of rain and moisture.

The two greatest sources of revenue for Peru, especially before its late war with Chile, when it was robbed² of

¹ It is said that the atmosphere is so dry in this arid region that picture frames are made of salt. A story to the same effect is told of a young girl of Huantajaya, where there is no water, who, on going to Tarapacá, and seeing a stream there, exclaimed: "Oh, what heretics these Tarapaqueños must be, to let so much blessed water run to waste! Pray save it, save it!"

² The Congress of Venezuela thus expressed the general opinion. "Chile, by invading the territory of Peru and Bolivia, and spreading desolation and death over them, pretends to resuscitate the absurd right of conquest, and by committing repeated acts of cruelty and barbarity on brother nations, she appears before the world as a sinister apparition of the most retrograde ages in history. We solemnly protest against the iniquitous and scandalous usurpation of which Peru and Bolivia are the victims, in spite of their heroism, and we beseech the God of nations to look favorably on the prompt

some of its richest possessions, were its guano and nitrate beds.¹ Such deposits, however, would be impossible in a rainy climate, for all their valuable salts would be bleached out as rapidly as formed. In many other parts of the world marine birds in immense numbers frequent certain islands and coast lands as well as in Peru, but the guano produced is immediately washed away by the heavy rain-falls that there prevail. What, then, appears to be the greatest drawback to the Peruvian littoral—its perennial aridity—is in reality the essential condition of its most valued sources of revenue. If the Humboldt current could be deflected from its present course, so as to permit the

restoration of lawful sovereignty, as a security for peace and concord among the sons of America.

¹ Early in the last century, Bollaert estimated the amount of sodium nitrate—called in Peru *salitre* or *caliche*—in the province of Tarapacá—to be sixty-three million tons and sufficient at the then rate of consumption to last one thousand, three hundred and ninety-three years. *Antiquarian, Ethnological and other Researches in New Granada, Ecuador, Peru and Chile*, p. 155, London, 1860. This, at the time, seemed to be an enormous amount, but, as subsequent developments have proved, it was only a small fraction of what is now known to exist.

The total annual production in Bollaert's time of this valuable commodity was less than ten thousand tons. In 1908 it was nearly two million tons. Notwithstanding, however, all that has been exported during the last century, there are still in sight, according to an official report of a board of engineers, who have investigated the matter, "a quantity sufficient at the present rate of exportation to supply the entire world's consumption for one hundred and thirty years." This estimate applies to the two provinces of Tarapacá and Antofagasta alone. How much more may yet exist in undiscovered deposits in these and adjoining districts cannot as yet be estimated. There is, however, reason to believe that it is very great.

The value of the sodium nitrate delivered in the ports of Europe and the United States in 1908 was more than eighty-five million dollars—sufficient evidence that this section of the South American Sahara is an asset that any nation might envy.

The reader will be interested in learning that the most probable theory regarding these deposits, whose origin has long been so fruitful a subject of discussion, is that they are derived from organic matter, most likely guano. If this theory should be verified, it will afford some of our lovers of curious problems an opportunity to calculate the age of the guano and nitrate deposits of the rainless coast lands of Peru and Chile, and the countless trillions of birds that have contributed towards the formation of these immense deposits.

same abundant precipitation as obtains along the coast of Ecuador and Colombia, the present Sahara of Peru would at once be clothed with a mantle of richest verdure, but, at the same time, its fabulous wealth in guano and nitrate would melt away never to return.

Although Arequipa is but little more than one hundred miles from Mollendo, it required nearly six hours for our train to make this distance. The grades through the cuttings in diorite and porphyry are heavy, and the curves around mountain spurs are sharp and numerous. The railroad connecting the two places, like the Oroya railway, is one of the great achievements of Henry Meiggs, and its construction is another evidence of his superb courage and tireless energy.

Arequipa has long been famous for its beauty and the mildness and salubrity of its climate. Its altitude above the sea is about the same as that of the City of Mexico. If not the most beautiful place in South America, as its admirers claim, it is certainly the most restful. It is such a place as one should like to retire to after the stress and storms of a busy career, to pass one's days in quietude and in a congenial environment. The people, who retain all the light-heartedness and cordiality and culture of old Spain, are worthy denizens of their charming city, and the better one knows them, the more he admires and loves them. I can truthfully say that I never found people anywhere whose generous hospitality and noble qualities of heart and mind made a deeper impression on me.

"Studios of men
His sociable nature ever was,"

are words applied by Homer to Ulysses. Since my visit to Peru I have never thought of them except in connection with my amiable, whole-souled host in Arequipa, Sr. T——, who is, in every sense of the word, one of Nature's noble-men.

So delighted, indeed, was I with Arequipa and the Arequipeños that I was quite willing to indorse the following lines, which I heard from the lips of a bright young señorita from one of the convent schools, in praise of her native city.

“Aquel que dichoso logra
Pisar este hermoso suelo.
O se vuelve enamorado
O se queda prisionero.”¹

For one who has visited Arequipa, it is easy to credit the story about the origin of its name. It is said that many of the soldiers of Maita Capac, on their return from one of their victorious campaigns, were so captivated by the beauty of the country which surrounds the present city—*la villa hermosa*,² the city beautiful—as it is often called, that they begged the Inca to permit them to remain here and establish a colony. After a moment's reflection, he replied, *Ari, quepai*, words which in Quichua signify, Yes, remain.

Arequipa has long been famous in Peru for its schools and scholars, for soldiers and statesmen. Its population is not large—about twenty-five thousand—but its people have been extremely active and successful in every walk of life. It counts many men eminent in science and letters and is justly proud of them.

I had a pleasant reminder one evening, that I was in a center of literary culture, when I listened to a serenade at the opposite side of the street from where I was stopping. The words sung were from one of those sentimental *yaravies* of Mariano Melgar, a native of Arequipa, whose verses, his admirers would fain have us believe, deserve to be classed with the melodies of Thomas Moore. The following strophes, addressed to a lady, who did not re-

¹ “He who has the good fortune to tread this bewitching soil either becomes enamored of it or remains a prisoner.”

² So called by its founder, Francisco Pizarro.

ciprocate the poet's love, are a part of the *yaravi* which the serenader sang to the accompaniment of his guitar, and are at the same time a fair indication of the character of Melgar's muse :

“Yo procuré olvidarte
Y morir bajo el yugo
De mi desdicha ;
Pero no pienses que el cielo
Deje de hacerte sentir
Sus justas iras.

“Muerto yo, tu llorarás
El yerro de haber perdido
Una alma fina ;
Y aun muerto, sabrá vengarse
Este mísero vivente
Que hoy tiranazas.”¹

But to appreciate the tender, melodious character of the *yaravi*, which is almost always in a minor key, one must hear it sung as the Peruvians sing it, and particularly as the people of Arequipa sing it. While it is somewhat monotonous, and pervaded by a vein of sadness, nevertheless, when the words sung are inspired by the absence or the ingratitude or the cruelty of the object loved, and when, especially, it is the singer who has enkindled love in the soul of the listener, then, as has been well said by the distinguished scholar, Mateo Paz Soldan, a son of Arequipa, each note is a poniard that transfixes the heart, “each *forte* excites deep emotion in the soul, and there is not a belle so proud that, when touched by the moving

¹ “I shall strive to forget thee and die under the yoke of misfortune;
But do not think that heaven shall fail to make thee feel its just wrath.

“When I am dead, thou wilt bewail having crushed an affectionate heart;
And even after death this miserable creature that thou dost now treat
so cruelly,
Will know how to wreak vengeance.”

melody, would not cast herself at the feet of the one who produces it."

The chief merit of the yaravi consists in the perfect accord of the music with the words. It is usually sung to the sound of the guitar or the mandolin, and when the singer of this national music has a plaintive voice, a fine presence and an attractive personality, and throws into it the pathos and the dramatic expression to which it so readily lends itself, he is always sure to bring tears to the cheeks of his auditors, and to excite in their souls mixed emotions of pain and ecstasy.

Among the attractions in the immediate vicinity of Arequipa, that are always sure to claim the attention of the traveler, are the astronomical observatory—a branch of the one at Harvard University—and the celebrated volcano of Misti, whose snow-turbaned summit is barely ten miles from the city's central plaza.

Owing to the clearness of the atmosphere and the number of cloudless days at this place, the observatory is probably more favorably located than any other observatory in the world. As a consequence of this and of the splendid administration of the institution since its foundation, the observers stationed there have been able to achieve results of the greatest value to astronomic science. They deserve special commendation for the splendid work they have accomplished in photographing the southern skies. By this work they have contributed, more than any other single staff of astronomers, towards the great map of the heavens whose preparation was many years ago confided to the activities of the great observatories of the world.

As an evidence of the remarkable transparency of the atmosphere at Arequipa, it will suffice to state that one may frequently see Venus and Jupiter shining brilliantly near midday, in spite of the effulgence of the noonday sun. The distinguished Peruvian writer, just quoted, goes farther and declares that, "The air is so transparent that one has

frequently observed, at one or two o'clock in the afternoon, three planets, "shining with all their brilliance the same as at midnight"—"*brilliant de tout leur éclat, comme au milieu de la nuit.*"¹

Mount Misti, "whose sun-bright summit mingles with the sky," is to Arequipa what Etna is to Catania—what Popocatepetl is to the City of Mexico, and what Fujiyama is to Yokohama—the most conspicuous and the most interesting object in the landscape. It is also to many an ever present menace, and to the Indians in the neighborhood an object of superstitious dread. From the time of the conquest, it was regarded as a dormant volcano, although it was frequently the center of violent earthquakes that wrought great devastation in Arequipa, and in the neighboring villages. In 1868, however, there was a terrific eruption, accompanied by an earthquake of such violence that the work of three hundred years in Arequipa was laid in ruins in a few minutes.²

Misti is about eighteen thousand five hundred feet high, and during the greater part of the year its summit is mantled with snow. On each side of it, at some miles distant, is a lofty peak also usually snow-capped. Misti is regarded as the high-priest, and the other two are considered his acolytes. Miguel del Carpio, a poet of Arequipa, has well described it in the following verses:

"Immensa mole, que del Dios eterno
Ostentas el poder, volcan terrible,
Que abrigas en tu seno al mismo Infierno;

¹ *Géographie du Peru*, p. 279, Paris, 1863.

² Perez de Torres, who traveled in Peru the latter part of the sixteenth century, informs us that it was the custom of the Indians living near Arequipa to propitiate El Zopay—the spirit of the volcano—by casting ten or twelve young maidens into the crater every year. This custom they were compelled to abandon after the arrival of the Spaniards, but, whenever there was an eruption of a volcano after that, the Indians declared it was in consequence of the anger of the Zopay at not receiving his annual tribute of youthful victims. *Historiadores Primitivos de Indias*, por Andres Gonzales Barcia, Tom. III, p. 12, Madrid, 1749.

Y que el dedo invisible
Del miedo y del terror siempre mostrando,
Al pueblo de las Gracias y de las Risas
En tus calladas iras tiranizas!"¹

¹ "Immense mountain, that of the eternal God dost show forth the power, terrible volcano, that holds within thy bosom Hell itself, and which, ever pointing the invisible finger of fear and terror at the people of Graces and Laughter, dost tyrannize them in thy silent wrath!"

CHAPTER IX

THE CRADLE OF THE INCAS

After a delightful visit to Arequipa we started for the far-famed lake of Titicaca, the traditional cradle of the Incas. Although the distance between the two points is little more than two hundred miles, it took the train more than twelve hours to make the run. This was caused by the heavy grades and the numerous sharp curves along the greater part of the road.

A few hours after leaving Arequipa I noticed that a number of the passengers were preparing for a siege of soroche—mountain sickness. Some of them were taking all the precautions adopted by people inclined to sea-sickness, when they cross the English Channel. They wrapped themselves in cloaks and lap-robcs to keep warm, and assumed a reclining posture, in order to be as comfortable as possible while crossing the crest of the western Cordillera. Many sucked oranges and sweet lemons, as they contended that the juice of these fruits is a prevention of soroche. Others, in imitation of the Indians, chewed coca leaves, which they claimed to be a specific against the dread malady. In spite, however, of all precautions, many were quite ill before they reached Crucero Alto, the highest point on the line. The road here attains an altitude of more than fourteen thousand five hundred feet, which, next to the Morococha, is the highest elevation attained by any railway in Peru.

Personally, I felt no ill effects whatever in consequence of the diminished pressure, and had I not constantly consulted my barometer, I should not have realized that I was traveling in such great altitudes. The air was dry

and crisp, but I was scarcely conscious of its increased rarity. And, although the temperature was considerably reduced near the summit of the range, I never suffered from the cold as I did at much lower altitudes in Ecuador, a thousand miles nearer the equator. One reason for this was the almost total absence of wind in the Peruvian sierras, at the time of our passage, which was in marked contrast with the boreal blasts we had to endure in the open cars on the chilly tablelands circling the base of Chimborazo.

The country through which the railroad passes is but sparsely inhabited and is desolate in the extreme. There are a few small villages here and there, occupied chiefly by hardy Indians who manage to eke out a precarious existence—it is difficult to see how—but who seem to be as much attached to their ichu-thatched adobe huts as are the Swiss mountaineers to their Alpine cottages.

This elevated and inhospitable region of the Cordillera is known in Peru as the *puna* and corresponds to the *paramo* of Colombia and Venezuela. It is barren and frigid and unpeopled, except along a few water courses and around the shore of certain lakes. Here one will find an occasional shepherd tending his flock of hardy alpacas or seeking pasture for a few half-famished llamas. In the lakes one may sometimes see small flocks of water-fowl—usually certain species of wild ducks and geese—but, outside of these, the only animals that seem at home in these bleak and dismal regions are the mountain-loving condor and the fine-fleeced, liquid-eyed vicuña—the graceful cameloid mammal, whose delicate wool was so highly prized by the Incas of old, that the use of its fleece by those not of the blood royal, was forbidden under penalty of death.

We reached Puno, a small town on the west shore of Lake Titicaca, about an hour after sunset, and immediately boarded the steamer that was to take us to Guaqui in Bolivia. Instead, however, of starting at once, according

to schedule, we did not get under way until early the next morning.

The remarkable thing about our steamer was the fact that it had been put on the lake before the railway was built. The material and the machinery employed in its construction were actually brought from the Pacific on the backs of men and animals, and, so great was the labor and expense involved that, it is said, the craft, when completed, cost its weight in silver. The cost of the vessel before she was launched must, indeed, have been enormous. Since the completion of the railroad from Mollendo, several other larger steamers have been put on the lake and they transport all the freight and passengers between Puno and Guaqui, as well as most of the traffic that is destined for the larger towns on the shores of the lake.¹

In many respects, Lake Titicaca is the most remarkable body of water in the world. There are smaller lakes that have a greater altitude,² but for a large, navigable body of water, it is quite unique. Its average width is thirty-five miles and its length one hundred and ten. Its area, consequently, is about fifteen times as great as that of Lake Geneva and nearly equal to that of Lake Erie. But this is only a small fraction of what it was during recent geologic times. Then it covered more territory than is now occupied by Lake Nyanza or Superior, and was, when its waters drained into the Amazon, the largest reservoir of the largest river in the world. It was then, too, much deeper than it is at present, although it still has, according to

¹ The two largest steamers on the lake are of one hundred and fifty tons burden, with fifty-horse-power engines. Including their transportation on the backs of mules from the Pacific, they are said to have cost the Peruvian government a million soles, an immense sum for such small craft. Although the projectors of steam navigation on Lake Titicaca had great difficulty in getting their vessels on its waters they did not encounter therein those large masses of loadstone which Padre Blas Valera, a contemporary of Garcilaso, said existed there and which, he averred, would, like the magnetic mountain of the Calender in the Arabian story, render navigation impossible.

² The picturesque lakes, called Lagunillas, near Crucero Alto, are a third of a mile higher than Lake Titicaca.

Alexander Agassiz, an average depth of a hundred fathoms.¹

Its elevation above the level of the sea is twelve thousand and five hundred feet—twice the height of Mount Washington, and higher than the Yungfrau, the pride of the Alps. And high above its elevated surface rises, on its eastern shore, the lofty range of the Cordillera Real, with the cloud-piercing peaks of Illampu and Huyana-Potosi, long believed to rival in altitude the loftiest summits of the Himalayas, and to tower above Huascaran and Aconcagua, the giant peaks of the great Andean range.²

I was now in the Thibet of the New World, and on the roof of the South American continent. I had attained another one of the goals I had, at the outset of my journey, so eagerly desired to reach, and had, at the same time, realized another one of the fond dreams of my youth—a visit to the land of the Incas and the Aymaras.

Yes, finally, I had before me the famed cradle of the Inca race, the reputed birthplace of the children of the Sun, and this thought almost made me oblivious of the magnificent panoramas that, in every direction, presented themselves to my enchanted gaze. In the highlands of Colombia and Ecuador my eyes had feasted on many scenes of transcending beauty and sublimity, but the vista that was now before me impressed me, in some respects, more deeply than anything I had before seen in any part of the world.

In the foreground was the turquoise blue expansè of Titicaca, decked with its russet-colored islands—for it was

¹ The maximum depth of the lake, according to the soundings made by Agassiz, is one hundred and fifty-four fathoms. Wiener, however, in his *Perou et Bolivie*, p. 390, tells us that his measurements gave a depth in many places of five hundred and thirty meters—seventeen hundred and thirty-nine feet. One may gauge the truth of this statement by his declaration in the same paragraph, that the snowy range of Sorata is more than thirty leagues from the shore of the lake, when, as a matter of fact, it is scarcely more than one-fourth of that distance.

² According to the most reliable measurements, the altitude of Illampu is about twenty-one thousand and five hundred feet above the sea.

THE CRADLE OF THE INCAS

the winter season—and in the distance was the snowy crest of the Cordillera Real, suffused with an Alpen-glow by the first rays of the morning sun.

The range of Sorata, with its glittering peaks and clear-cut ridges of dazzling whiteness, stood before us in all its beauty and grandeur. And so tranquil was the lake that all this wondrous panorama was perfectly mirrored in its broad expanse. In one single view we had before us the Alpine marvels of Switzerland and Alaska, the broad glaciers and snow fields, sources of countless rivers, and massive, rocky pinnacles that seemed to touch the empyrean. No wonder that objects so conspicuous and so imposing were the subjects of untold legends among the children of the Sun; that they were from time immemorial objects of superstitious worship; that Illimani and Huayna-Potosi, like Olympus and Valhalla of other climes, were regarded by them as the abode of gods and heroes. In the presence of such a sublime spectacle one's irrepressible emotions find expression in the following words of the poet:

“Ye Pyramids of God! around whose bases
The sea foams noteless in his narrow cup;
And the unseen movements of the earth send up
A murmur which your lulling snow effaces
Like the deer's footsteps. Thrones imperished!
About whose adamantine steps the breath
Of dying generations vanisheth,
Less cognizable than clouds; and dynasties,
Less glorious and more feeble than the array
Of your frail glaciers, unregarded rise,
Totter and vanish.”

Around the shore of the lake were picturesque towns and villages surrounded by hills, striated by countless *anden*es—terraced farms or gardens.

Between the shore and the deep water were verdant fields of *myriophyllum* and *titora*—species of reed—extending to a depth of six or seven fathoms, where myriads of aquatic

birds, the chief fauna of the lake, were feeding, and where herds of grazing cattle were standing, some of them almost beneath the surface, and actually, at times, plunging their heads below the surface, as if in the act of diving for the vegetation on which they were browsing. On the islands of Titicaca and Coati were cottages of stone and adobe, thatched with ichu grass and surrounded by gardens that dated back almost to the time of Manco Capac.

Here and there, flitting across the tranquil lake, were those curious reed balsas propelled by oars and by sails made of reed, reminding one of similar craft figured on the tomb of Rameses III, at Thebes. They are, indeed, quaint-looking craft, but soon become water-logged. Apparently, they are as frail and as unseaworthy as an Eskimo kayak, or a currach of the type St. Brendan is said to have used in his voyage to America. But, notwithstanding this, the Quichua and Aymara boatmen do not hesitate to cross the lake in them, carrying both freight and passengers. In some of these boats one may occasionally see a patient fisherman, but as the fish are few in number and small in size—only a few species¹ existing in the lake—the expectant angler has but slight reward for his pains.

I wondered, while watching these humble disciples of Izaak Walton, whether the Peruvian and Bolivian governments had ever made any attempt to stock the lake with fish. I know of no place where an experiment in pisciculture should yield more interesting results,² or where success would prove a greater boon to the thousands who

¹ Only six species, Siluroids and Cyprinoids, are known—a very small number, as Alexander Agassiz observes, for a body of water as large as Lake Erie.

² There is, unfortunately, one drawback to successful fish-culture here, which is due to the fact that the bottom of the lake—in places one hundred and fifty fathoms beneath the surface—is covered with a bed of very fine silt, which is brought down from the mountains by the rivers which flow into the lake. See *Hydrographic Sketch of Lake Titicaca*, by Alexander Agassiz, in the *Proceedings of the American Academy of Arts and Sciences*, Vol. XI, p. 284, 1876.



FISHERMEN ON LAKE TITICACA, NEAR PUNO.



CELEBRATION OF A FESTIVAL AT COPACABANA.

are now forced to live on the most meager fare. If our Fish Commission were to take the matter in hand, there is every reason to believe that Lake Titicaca would, in a few years, be teeming with the choicest fish of many species, and that its broad and deep waters could soon be made an invaluable source of food-supply for all the inhabitants of the tableland from La Paz to Cuzco.

But, interesting as are the physical features of Titicaca and its surroundings; interesting as are the people who inhabit its islands and shores; interesting as are the countless historical associations connected with it since the time of the conquest, it possessed for me a far greater fascination on account of the legends and traditions connected with the origin and development of the great Inca empire.

“Our Father, the Sun, seeing the human race in the condition I have described—living like wild beasts, without religion or government, or town or houses; without cultivating the land, or clothing their bodies, for they knew not how to weave cotton or wool to make clothes; living in caves or clefts in the rocks, or in caverns under the ground, eating the herbs of the field and roots and fruit, like wild animals, and also human flesh—had compassion upon them, and sent down from heaven to the earth a son and a daughter to instruct them in the knowledge of our Father, the Sun, that they might adore him, and adopt him as their God; also to give them precepts and laws by which to live as reasonable and civilized men and to teach them to live in houses and towns, to cultivate maize and other crops, to breed flocks, to use the fruits of the earth, like rational beings, instead of living like beasts. With these commands and intentions, our Father, the Sun, placed his two children in the lake of Titicaca, which is eighty leagues from here; and he said to them that they might go where they pleased, and that, at every place where they stopped to eat or sleep, they were to thrust a scepter of gold into the ground, which was a half a yard long, and two fingers in thickness. He gave them this staff as a sign and token,

that in the place where by one blow on the earth, it should sink down and disappear, there it was the desire of our Father, the Sun, that they should remain and establish their court.”¹

Thus, from the lips of a venerable Inca in Cuzco, did the historian of the conquest of Peru, Garcilaso de la Vega, receive the story of the origin of the empire of his illustrious ancestors. And no one was more competent to write on the subject than he, for, in addition to his varied scholastic attainments, he was, on his mother's side, a great-grandson of the illustrious Inca Yupanqui, while his mother, a highly gifted woman, was the daughter of the Inca Hualpa Tupac.

But, who were these two children of the Sun—Manco Capac and Mama Oello, his sister and subsequently his spouse and queen? Whence did they come? To what race did they belong? Whence did they obtain that knowledge of the arts and sciences, which they utilized with such splendid effect for the advancement and prosperity of their people? What was the secret of that incipient civilization of which they were the pioneers? Did they come from Europe or Asia, bringing with them the knowledge and the civilization of the Old World? If so, how were they able to traverse the immense distance that separated the place of their birth from the land that was to be the scene of their future achievements?

If Manco Capac was not a stranger, he must have been endowed with a genius of the highest order, to be able, within a few short years, to regenerate a people that had fallen into the lowest depth of savagery and degradation. It was not sufficient for him to claim to descend from the Deity, in order to become a master leader of men and the founder of a great and powerful empire. He had to justify by deeds rather than words his claim to be the son of the Sun. Unlike Numa and Licurgus, who started with a foundation to work on, who had only to develop and perfect

¹ Garcilaso de la Vega, *op. cit.*, Lib. I, Cap. XV.

a civilization already existing, Manco Capac found only brutal cavemen and nomadic savages. All was darkness and chaos. He had to create everything before even the simplest approach to an organized community and a stable government was possible.

Students of archæology and historical criticism have essayed in vain to answer the above questions, to penetrate the obscurity that envelops the origin of the Inca dynasty, to separate the authentic traditions transmitted from father to son, from the countless legends and fables that are as puzzling and as inexplicable as the fictions of Greek or Hindu mythology. All is still shrouded in mystery—in mystery even darker than that which veils the advent of the Toltecs and Aztecs to the vale of Anahuac; more profound than that which obscures the first beginnings of the civilizations on the elevated Pamirs and in the valleys of the Nile and the Euphrates.

In all this uncertainty and mystery, however, one fact seems to remain incontrovertible, and that is that Manco Capac and Mama Oello first appeared on the shores of Lake Titicaca. On this point tradition and the concurrent testimony of the earlier historians are practically at one. Indeed, at the time of the arrival of the Spaniards, the memories among the natives of their first Inca rulers and of their first appearance in the neighborhood of Lake Titicaca, were comparatively fresh and uniform. Another fact, too, is unquestioned. Whether Manco Capac, the Minos of Peru, was of foreign or of native origin, it is certain that he was able in the space of thirty years, to lay the foundations of that vast empire which, under the Inca Yupanqui extended its conquests to the Maule in Chile, and under Huayna Capac, planted its victorious banners above the fortresses of the Shiiris in the extended territory of Quito, and which gave its laws and religion and language to hundreds of conquered tribes from the great ocean on the west to the forest-clad slopes of the Andes on the east.

And while Manco Capac was establishing his government—patriarchal and despotic—and teaching his people the arts of agriculture and civilized life, his sister-wife—Mama Oello, was, says Garcilaso, employing “the Indian women in such work as is suitable to them, such as to sew and weave cotton and wool, to make clothes for themselves, their husbands and children, and to perform other household duties,” thus making herself the *coya*—queen—and mistress of the women as the Inca made himself the king and master of the men.¹

It would be difficult to find any place in the world richer in legends and traditions than is Lake Titicaca. Every cove and inlet, every rock and island has its myth, and many of these places were held in special veneration by the Incas for long generations. This was specially true of two islands—Titicaca—sacred to the sun, and Coati—sacred to the moon, the sun’s sister.

What a fascination there was about these two islands! Beholding the cradle and the sanctuary of Inca civilization, it was easy to fancy oneself a spectator of one of those long processions of reed balsas conveying the children of the Sun from the mainland to the sacred islands of their race, where were the rich temples and shrines dedicated to their Sun-Father and Moon-Mother. Adorned with gorgeous trappings of gold and silver—royal colors—the Inca’s barge, manned by stalwart young oarsmen specially selected for this service, led the way. Immediately following the sphinx-like Inca came the members of his court arrayed in gaudy vesture. Next to them were the ministers of the temple and the officers of his army, gleaming in barbaric attire. The rear of the procession was made up of the humble tillers of the soil, who had gathered from all parts to greet their idolized ruler and to swell the number of worshipers congregated about the effigies of the Sun and the Moon, or in front of Sacred Rock decked with richest tissues and plates of burnished silver and gold.

¹ Op. cit., Lib. I, Cap. XVI.

“The natives,” writes Cieza de Leon, “held a very vain and foolish belief, which was, that in the time of their ancestors there was no light for many days, and that when all was wrapped in darkness and obscurity, the resplendent sun came up out of this island of Titicaca, for which reason it was considered sacred, and the Incas erected a temple on it in honor of the sun, which was much revered and venerated among them, and which contained many virgins and priests, and great store of treasure, of which the Spaniards, at different times, have collected a great deal, but most of it is still missing.”¹

But the most sacred part of the island was a large rock or cliff called Tita-Kala, which was revered as “the house and home of the sun, or the one thing which it most esteemed in the world.”

Another legend was that the sun, moon and stars were created at Tiahuanaco, of which we shall learn more in a subsequent chapter, and that, after being created, they were ordered to go to the island of Titicaca, and thence ascend to heaven and take the places they now occupy.²

The ruins of the temples and palaces—built of stone—on the islands of Titicaca and Coati are still so well preserved that the plans of many of them can be made out with little difficulty, and some of them are among the best and most interesting specimens of Inca architecture now existing in Peru.

In these temples and palaces, according to the old chroniclers, were immense treasures rivaling those in the temples of Cuzco. The riches in the temple of the Sun were specially great, for “Here,” writes Garcilaso, “all the vassals of the Inca offered up much gold and silver

¹ Op. cit., Cap. CIV. Compare, also, the *Segunda Parte de la Cronica*, Cap. V, p. 5, Madrid, 1880, in the *Biblioteca Hispano-Ultramarina*. By a strange error, into which anyone might fall, this work of Cieza was attributed by Prescott to Sarmiento.

² *Relacion de las fabulas y ritos de los Yngas hecha por Cristoval de Molina*, translated by Clements R. Markham and published by the Hakluyt Society in *Narratives of the Rites and Laws of the Incas*, p. 5, London, 1873.

and precious stones every year, as a token of gratitude to the Sun, for the two acts of grace which had taken place on that spot. This temple had the same service as that of Cuzco. There was said to be such a quantity of gold and silver as offerings, heaped up in the island, besides what was worked for the use of the temple, that the stories of the Indians concerning it are more wonderful than credible. Father Blas Valera, one of the earliest Spanish chroniclers, speaking of the riches of this temple and of the quantity of wealth that had been collected there, says that the Indian colonists, called *Mitimaes*, who lived in Copocabana, declared that the quantity of gold and silver, heaped up as offerings, was so great that another temple might have been made out of it, from the foundations to the roof, without using any other materials. But as soon as the Indians heard of the invasion of the country by the Spaniards, and that they were seizing all the treasure they could find, they threw the whole of it into the great lake.”¹

“When you go to Titicaca,” said a friend to me before leaving Lima, “be sure to go to Copocabana. I have just come from there and it is one of the most interesting places I ever saw. This is the month for pilgrimages there to the famous sanctuary of Our Lady de la Candelaria—*La Santísima Virgen de Copacabana*—which dates back almost to the time of the conquest, and was, for a long time, the richest and most celebrated sanctuary in South America. Although the place has lost much of its former prestige and the convent and hospice have been allowed to deteriorate, nevertheless, the multitudes of people who

¹ Op. cit., Lib. III, Cap. XXV. For detailed information by modern writers of the ruins of Titicaca and Coati, the reader may profitably consult *Peruvian Antiquities*, by Rivero and Tschudi, New York, 1855; *Peru, Incidents of Travel and Explorations in the Land of the Incas*, by E. G. Squier, London, 1877, and *L'Empire du Soleil*, par le Baron et La Baronne de Meyendorff, Paris, 1909, and especially *The Islands of Titicaca and Coati*, by A. F. Bandelier, New York, 1910, a copy of which I received only after this chapter was ready for the press.

still congregate there from all parts of Peru and Bolivia are truly astonishing."

My friend was right. Copocabana—*La Ciudad Bendita*, the blessed City—is well worth a visit, if only to study the crowds that assemble in and around the large and beautiful church which, with its white cupolas, has, at a distance, the appearance of a basilica whose architecture is half Byzantine and half Spanish renaissance. The shrine of the *Virgencita Milagrosísima*—the most miraculous little virgin—is situated behind the altar and in it is placed the statue that has given the sanctuary its fame and which, for centuries, has been the magnet that has annually drawn to this venerated spot thousands of pilgrims from all parts of the southern continent. The image has a lovely crown of gold, and is lavishly decked with the rarest and most precious stones and pearls that devotion and gratitude could suggest.

To be present at any of the festivals celebrated in this sanctuary, especially during the time of a pilgrimage; to hear the sacred canticles then chanted in the Aymara language by a confused multitude of Indians and Spaniards from different and distant lands; to note the harmonious echoes of those *salves* that greet the pilgrims on their arrival—*salves* that are famous in the highlands of Bolivia and Peru—and have all this commingled with the moaning and sighing of the wind among the massive crags that flank and tower above the sacred edifice, and with the booming of the waves of the lake, as they break at the foot of the crowded sanctuary, is an experience that is as unique as it is soul-stirring and memorable. The nearest approach, probably, to such a scene is at the annual festival of Our Lady of Guadalupe in the City of Mexico, or on the occasion of one of the great national pilgrimages of France to the grotto of Our Lady of Lourdes in the Hautes-Pyrénées.¹

¹ *Historia de Copacabana y de su Milagrosa Virgen*, escrita por el R. P. Fr. Alonso Ramos, y compendiada por el P. Fr. Rafael Sans, La Paz, 1860.

Not far from Copocabana is the small town of Juli. It was at one time a place of considerable importance, as is evidenced by the four large churches, two of which, besides being splendid specimens of architecture, are furnished with paintings and carved pulpits, and silver altars, that would command admiration in one of the great cathedrals of Europe. But these churches, surprising as they are in this almost abandoned place, are not Juli's chief claim to distinction. Incredible as it may seem, this unknown place in the far-off sierras,—so distant from the marts of commerce and so devoid of means of communication with the outside world,—possessed a printing press several years before the first one was introduced into the United States. Here, as early as 1612, the zealous and learned old missionary, Padre Ludovico Bertonio, published his great dictionary, of more than nine hundred pages, of the Aymara language. Here, too, he printed a life of Christ, in Spanish and Aymara, containing nearly six hundred pages.

Elsewhere I have referred to the numerous works written by another missionary, Padre Rivero, under most trying circumstances, on the banks of the Meta, but, if we were called upon to compare the astonishing achievements of these two devoted standard-bearers of the gospel of peace, we should be inclined to award the palm to good old Padre Bertonio. To students of Aymara and comparative philology, his works are invaluable, and constitute a splendid monument to his indefatigable zeal and profound scholarship.

A short time before going to La Paz I met an Englishman who had just returned from Bolivia, where he had been on business. He was enthusiastic about his trip, especially about a moonlight excursion he had made on Lake Titicaca.

"It was wonderful," he exclaimed, "and I never enjoyed anything so much in my life. I have seen much of the world, but I have never seen anything that so fascinated me as the magnificent panoramas I witnessed from

the deck of the steamer while sailing under a full moon over the placid waters of this marvelous lake. Would you believe it? I actually sat up all night, absolutely enchanted by the splendid vistas, ever changing, offered by lake and mountain and sky. I envy you the pleasure you have before you on Lake Titicaca, especially if the conditions prevailing there should be as favorable as they were when I made the trip."

So eloquent was my friend about the gorgeous views to be had on Lake Titicaca, from one end to the other, that I concluded at once that his enthusiasm had caused him greatly to exaggerate the beauties and attractions I was soon to behold with my own eyes.

But I was mistaken. His description, far from being overdrawn, fell short of the reality. After what I had heard, I had looked forward to much, but fearing all along that I should be disappointed. But my fondest expectations were more than realized, for not even in my wildest fancies could I have imagined anything more ravishingly beautiful, more truly sublime, more surpassingly magnificent. I thought, when on the lofty tablelands of Ecuador, that I had beheld mountain scenery at its best, and had scanned the heavens under their most imposing aspects. But Titicaca had new marvels for me, new splendors on the earth, new glories in the heavens.

Fortunately, during the days and nights I spent on the lake, there was ideal weather. There was scarcely a ripple on the water. The sky was cloudless and of that splendid cerulean hue that one often reads of but rarely sees. The moon was as round as Giotto's circle, and so effulgent that I could almost fancy it had regained that splendor of which the Inca legend says the sun was once so jealous.¹ The

¹"They say that the moon was created brighter than the sun, which made the sun jealous at the time when they rose into the sky. So the sun threw over the moon's face a handful of ashes, which gave it the shaded color it now presents." *The History of the Incas*, by Pedro Sarmiento de Gamboa, p. 33, translated by Clements R. Markham, and published by the Hakluyt Society, London, 1907.

stars, too, which inlaid the floor of heaven "with pattens of bright gold" shone with a brilliance unknown in our murky latitudes, and seemed as resplendent as they must have been when they were bidden by their Creator to rise from the sacred island of Titicaca and fix themselves in the heavens.

Among them were the Pleiades—*Oncoy-coyllur*—sick stars—which among the Incas were objects of worship on account of their reputed influence on certain diseases, as were also the Hyades—*Ahuaracaqui*—tapir's jaw—which were supposed to exert a special influence during seed time. And there was Venus, the most beautiful of all the planets, known to the ancient Peruvians as *Chasca*, "the star of the long and curly hair."

"The Incas honored this star," Garcilaso informs us, "because they said it was the page of the sun, traveling nearest to it, sometimes in front and at others behind. They venerated the Pleiades because of their curious position and the symmetry of their shape. They looked upon the host of stars as handmaidens of the moon, and they, therefore, gave them"—in the temples of the moon—"a hall near that of their mistress, that they might be at hand for her service, for they said that the stars walk through the heavens with the moon, as if they were her servants, and not with the sun. This they said because they saw the stars by night and not by day."¹

Thanks to the unwonted splendor of the moon and stars, which permitted us to distinguish all the salient features of lake and Cordillera with the greatest ease, the nights I spent on Lake Titicaca were glorious beyond words to express, and they will always be associated with my most delightful experiences in South America.

But however fair the views presented to our enraptured gaze in the subdued light of the moon and her attendant "handmaidens," we could not be insensible to the gorgeous vistas that burst upon our vision during the daytime. It

¹ Op. cit., Lib. III, Cap. XXI.

was then, especially at the hours of dawn and twilight that the snow-crested range of the lofty Cordillera Real was visible in all its transcendent beauty and majesty. For then, as if by magic, various colored fires seem to blaze forth from the immense glaciers and snow-fields, and to convert the sparkling expanse into glowing rubies, sapphires and emeralds, while the lofty peaks of the Sorata range are transformed into gleaming pinnacles of burnished gold. Then in fullest perfection and in palpable form is realized that vision of mountain loveliness, that crowning splendor of earth and sky, set forth in Ruskin's noble lines: "Wait yet for one hour, until the east again becomes purple, and the heaving mountains, rolling against it in darkness, like waves of a wild sea, are drowned one by one in the glory of its burning; watch the white glaciers blaze in their winding paths about the mountains, like mighty serpents with scales of fire; watch the columnar peaks of solitary snow, kindling downwards, chasm by chasm, each in itself a new morning; their long avalanches cast down in keen streams brighter than the lightning, sending each his tribute of driven snow, like altar-smoke, up to the heaven; the rose-light of their silent domes flushing that heaven about them and above them, piercing with purer light through its purple lines of lifted cloud, casting a new glory on every wreath as it passes by, until the whole heaven—one scarlet canopy—is interwoven with a roof of waving flame, and tossing, vault beyond vault, as with the drifted wings of many companies of angels; and then, when you can look no more for gladness, and when you are bowed down with fear and love of the Maker and Doer of this, tell me who has best delivered this His message unto men!"¹

¹ *Modern Painters*, Part II, Sec. III, Chap. III.

CHAPTER X

IN AYMARALAND

We arrived at Guaqui, the terminus of the La Paz railroad early in the morning after an ideal sail on the sacred lake of the Incas. The temperature was near the freezing point, but the air was so dry and stimulating and the morning sun so bright that we did not feel the cold. And to those of us who had come from the coast, the atmosphere was like a tonic that was as delicious as it was invigorating.

While waiting for the making up of the train that was to take us to La Paz, we were much interested in watching two or three score of Aymara Indians who had been engaged by the company to transfer from the steamer to the wharf several hundred boxes of specie that were destined for the national treasury of Bolivia. In any other part of the world a large number of police, detectives and special agents would have been on hand during the transfer of so much treasure; but here there was not a single one visible. This valuable consignment was handled like so much ordinary freight, and, although the Indians knew very well the nature of the precious cargo, which for the time being was in their keeping, the agent who was responsible for its safe delivery to La Paz, did not exhibit the slightest apprehension regarding the security of the vast fortune entrusted to his care. When I asked him if he was not afraid of the Indians stealing some of the coin he replied at once: "Not in the least. There is not the slightest danger of that. They are poor, very poor, but thievery is not one of their vices. If one of them saw a bright ribbon tied around one of the boxes he might be tempted to appropriate it for his wife or sweetheart, or, if he came across

a bottle of aguardiente, he would very likely take a dram, but that would be the limit of his purloining. I would not fear to trust them with all I possess, for they are the most honest men I have ever met."

A few moments after this he showed his implicit confidence in these humble laborers by going some distance from the wharf to his breakfast and leaving all the treasure in question entirely in their custody. There were no guards or secret-service men, for none were necessary.

While reflecting on what I had just seen and heard, and recollecting the train and bank robberies which are so frequent in our own country and the necessity that exists among us of armed convoys, when property of value is to be transported from one place to another, I recalled the *True confession and protestation in the hour of death*, made to Philip II by Marcio Serra de Leguisano, the last of the conquistadores. In this confession it is declared that "The Incas governed in such wise that in all the land neither a thief nor a vicious man, nor a bad, dishonest woman was known. Crimes were once so little known among them, that an Indian with one hundred thousand pieces of gold and silver in his house, left it open, only placing a little stick across the door, as the sign that the master was out; and nobody went in. But when they saw that we placed locks and keys on our doors, they understood that it was from fear of thieves, and when they saw that we had thieves amongst us, they despised us."¹

My reflections were interrupted by the vociferous call of the train conductor, "All aboard for La Paz." With a number of other passengers, I was soon seated in one of the old coaches of which the train was composed, and a few moments later we were out on the bleak, treeless plain that stretches from Lake Titicaca to the southern part of Bolivia. We were now passing over what was once the bottom of an immense inland fresh water sea, with little in

¹ *Coronica Moralzada del Ordem de San Augustin en el Peru*, Lib. I, Cap. XV, por Fray Antonio de la Calancha, Barcelona, 1638.

view but the ranges of the Andes towards the east and the Cordillera towards the west.¹ As it was the winter season, there was but little verdure visible. All was as dry and as desolate as western Kansas in December, and there was little, outside of the few towns and villages, to enliven the scene, except an occasional flock of sheep or goats, or an odd herd of spotted cattle, that was trying to find some nourishment in the scattered bunches of dry grass that dotted the arid and dusty plain.

In the few towns of this desolate plateau what impressed us most was the large and beautiful churches. One of them particularly commanded our admiration on account of its size and the beauty of its architecture. How were these poor people ever able to erect such a noble structure in this desert? I had often been surprised at the large and beautiful churches that I had found in the highlands of Colombia and Ecuador, but I do not think any of them ever astonished me so much as a certain cathedral-like structure which suddenly burst upon our view as we were crossing this inhospitable region. It was in every way far superior to many of the cathedrals of Europe.

This chilly and desolate plateau would seem to be the most unlikely place in the world for legends and folklore, but it is, nevertheless, quite rich in this respect. It is not, of course, comparable with Lake Titicaca, where every rock and island and bay has one or more myths and legends woven about it, and where it would be easy for the lover of legendary lore to collect material for a large volume.

One of these legends,—or should it rather be called a tradition?—regards the river Desaguadero which comes through the plain to the southwest of us and connects Lake Titicaca with Lake Aullagas a hundred miles further south.

¹ In South America the terms Andes and Cordillera are usually employed indiscriminately to designate both the eastern and western ranges of the vast mountain chain that extends from Panama to Patagonia, but many Peruvian and Bolivian writers restrict the term Andes to the eastern range and the epithet Cordillera to the western or Pacific range.

On the east shore of Lake Titicaca, near the present village of Carabuco, is a spring of water known as the Saint's Fountain. It is so called, so the story runs, because many centuries ago an extraordinary man of ruddy complexion, tall and with a beard, lived hard by in a cave. He spoke a language quite unlike any known in the land and proclaimed a religion which was quite different from that of the inhabitants of the country. This remarkable man preached virtue and taught the adoration of one only God. The Indians of Carabuco, who were both corrupt and ferocious, put to death his six disciples, and after cruelly torturing the saint himself, they bound him hand and foot and put him on a balsa and consigned him to the stormy lake that he might perish by hunger or through the fury of the waves.

At first the fragile craft was impelled over the waters solely by the action of the wind, but presently there appeared above the lake a most beautiful woman, attired in resplendent vesture, with a crown of stars on her head, who boarded the canoe, and directed it towards the south-west, opening through the reed-covered marsh a channel which still exists and leaving behind a wake, which was visible for many years afterwards, that was as effulgent as the rays of the sun. When the balsa reached the opposite shore, the earth made a passage for it, and formed at the same time a broad, peaceful river of great length. This river is the Desaguadero, that still conveys the surplus waters of Lake Titicaca to Lake Aullagas, or, as it is also called, Lake Poopo.

This tradition is interesting because it is so like similar traditions that obtain in all parts of the New World from Uruguay to Mexico regarding the arrival of an extraordinary man in the remote part, who preached the gospel to the peoples of the different countries through which he passed. In Brazil such a tradition is particularly well-preserved. Before the arrival of the missionaries in Uruguay, immediately after the conquest, the Indians of

that country were acquainted with certain Christian tenets which they said they had, long ages before, received from Paz Tumé, the name they gave to St. Thomas, the Apostle, who had, they claimed, evangelized their country. The same tradition, according to the first missionaries, existed in Paraguay; for, when they asked the Indians the reason for the cordial reception they had given them, they replied that when Paz Tumé—St. Thomas—passed through their country he spoke to them as follows: “The doctrine which I now preach to you you will lose with the lapse of time, but when, after many years, other priests, my successors, shall come carrying a cross like I do, your descendants shall hear the same doctrine I now preach to you.” “It was this tradition,” declares one of the missionaries, Padre Ruiz de Montoya, “that caused the Indians to receive us with such demonstrations of joy and affection.”¹

Similar traditions exist respecting St. Bartholomew, who is represented to have evangelized several parts of South America at the same time as St. Thomas, and numerous rocks are pointed out that are said to be marked by his footprints. There is in these legends an abundance of material worthy of the attention of the historian and the archæologist, and *motifs* for many stories of deepest interest.

Were it not for the lofty ranges of mountains on both sides of the plateau and the colossal peaks of Illampu, Huayna-Potosi and Illimani, the scene, as viewed from the train, would be monotonous in the extreme. Even as it was, the lack of variety in the landscape made us recall a

¹ *Conquista Espiritual, hecha por los Religiosos de la Compania de Jesus en las Provincias del Paraguay, Parana, Uruguay, y Tape*, p. 29, por el Padre Antonio Ruiz, Madrid, 1639. Compare, *An Account of the Antiquities of Peru*, p. 67 et seq., by Juan de Santa Cruz Pachacute-yamqui Salcamayhua, in *Narratives of the Rites and Laws of the Incas*, translated by Clements R. Markham, and published for the Hakluyt Society, London, 1873. Piedrahita, in his *Historia del Nuevo Reino de Granada*, Part I, Lib. I, Cap. III, and Velasco, *Historia de Quito*, Tom. I, p. 164 et seq., hold similar views.

statement of Madame de Staël in her *Dix Années d' Exil*, wherein she declares that so boundless were the plains of Russia that everything is lost in space—"L'étendue fait tout disparaître, excepté l'étendue même."

"Though I was driven with great rapidity," she writes, "it seemed as if I never advanced, so monotonous is the country. I was under that sort of delusion which sometimes comes over us at night, when we imagine we are going at a great rate, though never stirring from the spot. I fancied that this country was the image of infinite space and that it would require eternity to travel through it. There is scarcely any variety of trees in it; we are even disposed to regret the absence of stones, so weary are we sometimes of meeting neither hills nor valleys, and proceeding on and on without seeing any new objects."

This impression, however, did not last long in our case. The distance from Guaqui to La Paz is but little more than forty miles, and, although our train was very slow, we reached our destination sooner than we had anticipated. The first indication that we were nearing the capital was the large and numerous troops of llamas coming from every part of the plain. They and their Indian masters seemed all to be converging towards the same point on the plain and the point, too, for which our train was headed. Most of the animals were loaded with products from garden and field and were evidently on their way to market.

But where was the market? And where was La Paz? The train had stopped and we had alighted from our car, but there was not the slightest indication of the nation's capital anywhere within the field of view. There was the same vast plain, over which we had been traveling for several hours past, bounded by the same mountain bulwarks, from which arose the same snow-clad pinnacles that had so fascinated us when seen from the moonlit water of Lake Titicaca.

In front of us was majestic Illimani, whose resplendent silver crown was sharply silhouetted against a sky of indigo

blue. The longer we gazed on it the more stupendous it appeared. It seemed to move towards us and towards the firmament at the same time, and to increase in magnitude as the distance between it and ourselves was diminished. This appearance of immensity and proximity was accentuated by banks and banks of clouds which began to circle about its lofty flanks. Then, by a peculiar optical illusion, familiar to mountaineers, this giant of the Andes seemed suddenly to shoot skywards and at the same time to menace toppling over the earth and burying it in ruins. Here, indeed, is

“Where Andes, giant of the Western Star,
With meteor standard to the winds unfurled,
Looks from his throne of clouds o’er half the world.”

Just then our attention was directed to a troop of llamas that were but a short distance in front of us. One by one they dropped out of sight, as if they had fallen over an invisible precipice. What became of them? Our curiosity was aroused and we went to investigate. When we reached them, the mystery was explained at once. We stood on the brink of a broad, deep *quebrada*—cañon—and away down in the bottom of it, fifteen hundred feet below the position we occupied, was the famed city of *Nuestra Señora de la Paz*—Our Lady of Peace.¹

This sudden apparition of the capital of Bolivia was in itself an extraordinary experience. It seemed to be located at the bottom of the crater of an immense volcano. It was as if the traveler, standing on Inspiration Point, were unexpectedly to find a large and flourishing city in the valley of the Yosemite. On all sides but one it is surrounded by precipitous walls of rock and at the first view it seemed in-

¹ La Paz was founded by Alonzo de Mendoza in 1549, by order of President Gasca, and called *La Ciudad de Nuestra Señora de la Paz*, to commemorate the peace established after the rebellion of Gonzalo Pizarro. In 1826 the name was changed to *La Paz de Ayacucho*, in commemoration of the great battle of Ayacucho, which was the Waterloo of Spanish domination in Peru. It is usually, however, known by the abbreviated name, *La Paz*.

accessible. But turning towards the right we observed an old well-beaten bridle path. It was down this narrow trail that the llamas, that had so mysteriously disappeared from our view a few moments before, were winding their way to the market. Near by was the old stage route, and not far distant was the recently-constructed electric railway over which we were to continue our journey to the city.

The view of La Paz from *El Alto*—as the point where we stood is called—is quite unique. No other city occupies such an extraordinary site, and one wonders why the old conquistadores selected such a place for Our Lady of Peace. It is true, there were valuable mines in the immediate vicinity, but these were soon all but exhausted. As a strategic point against warlike Indians, it had its advantages at one time, and to this probably was due the name it so long bore—*Nuestra Señora de la Paz*.

As we first saw La Paz under a bright noonday sun, it presented a beautiful picture. Its imposing churches and convents and monasteries; its public buildings, grand plaza, and alameda; its salmon-tiled houses and its droves of llamas moving along the narrow streets, constituted a view that once seen can never be forgotten.

Athens, as viewed from the Acropolis, Jerusalem as seen from the Mount of Olives, are, in their way, marvelous and matchless, but La Paz, with its extraordinary setting of multicolored rocks, rivaling the bright hues of those that tinge the famous cañon of the Yellowstone, will always remain among the cities of the world as absolutely *sui generis*, and as exhibiting certain features possessed by herself alone.

The descent from El Alto to the city, over the winding road, where a few years ago it was deemed impossible to operate a railway of any kind, was in itself a delightful experience.

In the United States or Europe the car would doubtless be operated by a cable or a cog-track, but here, by series of sharp curves and a heavy grade, it is made to pass between

El Alto and the city with ease and safety, for both freight and passengers.

The population of La Paz amounts to nearly sixty thousand, of whom more than one-half are Indians, mostly Aymaras. The rest are nearly equally divided between whites and mestizos, who are the descendants of whites and Indians.

What first impresses the traveler is the singularly quiet and orderly character of the people. They may become very excited and bellicose in time of war, or during seasons of political agitation, but, at the time of my visit, they seemed to be the most gentle and pacific people I ever met.

The Aymaras and cholos—half-breeds—interested me immensely. The cholos—men and women—are remarkable for the brilliant colors they affect in all their articles of clothing. The men wear caps with ear-laps that seem to be modeled after the one worn by Dante in his Bargello portrait—a portrait attributed by some to his friend Giotto. The cap is singularly becoming, especially to boys and children, and I could not rest until I had secured a number of them for some of my young friends at home. All these caps are knit from woolen yarn, and are usually of several flashy colors combined in the most extraordinary fashion. The same may be said of the ponchos worn by the men. They are all like Joseph's coat of many colors. Whether the colors are in stripes or crossbars, as in a Scottish Highlander's plaid, or a Stewart tartan, they are as gaudy as the Sunday dress of a Martinique negress.

But more remarkable still is the collection of skirts which every chola displays, particularly on feast days. In Bethlehem the young girls carry their dowry on their person in the form of silver and gold coins used as ornaments. In La Paz the chola's fortune is in her skirts, all of which she takes pride in wearing at the same time. It is said that some of them wear as many as twelve or fifteen at once, no two of which are of the same color. The owner



A TROOP OF LLAMAS.



LA PAZ, WITH ILLIMANI TO THE RIGHT.

then demands as much space for freedom of movement as did formerly the wearer of an Elizabethan farthingale.

It is this peculiarity of the dress of many of the people of La Paz—of the Aymaras as well as of the mestizos—that gives so much color to the city and reminds one at every turn of the bright colors witnessed in Tunis and Cairo. But in La Paz the colors are much more varied and more brilliant than those of the Orient, and, although such combinations as predominate might seem disagreeable, the general effect is rather grateful to the eye and harmonizes perfectly with the environment.

While walking one evening in the Aymara quarter of La Paz—for I was now in the heart of Aymaraland, which I had for long years so eagerly desired to visit—I was struck by a soft and plaintive melody sung by a graceful Indian youth before the window of his dusky young *querida*. I at once suspected that it was an Aymara serenade and so it was. I there and then determined to get a copy of the words that were sung, which I give herewith, together with a translation. They show that tender sentiment is as strongly developed among the Aymaras as among more cultured peoples.

If the contention of certain Bolivian philologists be true, viz.: that Aymara is the language which was spoken by Adam,¹ the verses here reproduced should have a special interest for the reader, for it is not often that he or she has an opportunity of examining a specimen of the language used by the father of mankind in those sweet interviews with the mother of the human race, as reported by Milton in his *Paradise Lost*.

The words sung by the ardent serenader to his tawny love were as follows:

“Khallallquiri urpilita
Muañamamp sipitiri,

¹ *La Lengua de Adan y el hombre de Tiahuanaco*, por el abate Isaac Escobari, La Paz, 1888.

Llaquipair untucuru.
 Uñtañamamp laikasiri.
 Haipphu sartir thayanaca
 Koikotajh aparapita,
 Chica aruma wuariranaca
 Kochoj isthayarapita.”

(“Thou art my fluttering dovelet;
 Thy love hath me bewitched.
 Thy glance, thou lovely birdlet,
 Hath caught me in a magic net.
 Evening zephyr, bring my darling
 All my sighs and laments;
 Wild nightwind, bear to her earlet
 All my heart-born entreaties.”)

I never tired watching the llamas that, with their Aymara masters, meet one at every step in La Paz. They too, like the dresses of the people, are of many colors—white, brown, black and piebald. Someone has described a llama as an animal with the legs of a deer, the body of a sheep, and the neck and the head of a camel of which in the words of Buffon, *il semble être un beau diminutif*. They are, however, much more gentle and docile than a camel, and far more beautiful. As they stand before one with their long and graceful necks and their liquid, inquiring eyes, one can understand why the Aymara is so fond of them, even aside from their value as beasts of burden and as sources of food and clothing. Anyone could make a pet of a llama, especially a young one, while no one but an Arab could ever love the ugly, ungainly camel.

The favorite habitat of the llama is the highlands of Bolivia and Peru. They are also found in Chile and Ecuador, but in comparatively small numbers. They are remarkable as being, with the alpaca, dog and cuy—a small guinea-pig—the only domestic animals found in South America at the time of the conquest. With the alpaca and the vicuña, they supplied the Incas and their subjects with food and

clothing, and served, at the same time, as the only beasts of burden then available. Horses, cattle, sheep and other domestic animals were unknown in this part of the world until their introduction by the Spaniards.

Unlike the camel, the llama does not thrive in a hot climate. But like its distant relatives of Asia and Africa, it can live a long time without water. A camel may live a week or more without drinking, but Buffon tells us that a llama, "owing to the great abundance of saliva, which keeps the mouth continually moist," may live even longer.

The load carried by the llama does not usually exceed seventy-five pounds. If he is overloaded, he files a protest by lying down, and will not rise until his burden is lightened. The distance he travels is not ordinarily more than ten or twelve miles a day. His chief nourishment along the way is the clumps of ichu grass found everywhere in the Andean plateau, as well as in the more elevated puna or *Despoblado*—unpeopled region—of Bolivia and Peru. The Aymaras and Quichuas are as much attached to their llamas as are the Arabs to their horses and camels. And well they may be, for without these beautiful animals their lot, although already sufficiently trying, would be almost unbearable.

Great, however, as was my interest in the llamas themselves, that I saw in La Paz, it was but secondary to that excited by a certain article of freight which droves of them brought in from the eastern slope of the Andes. This particular article was the coca leaf, which is one of the most valuable of Bolivian products. The greater portion of this precious commodity comes from the province of Yungas in the department of La Paz, and much of this is brought to the capital, where it finds a ready market.

It is from this coca leaf that the remarkable alkaloid, cocaine, is extracted. But although the wonderful physiological effects of coca have been known by the Indians from time immemorial, it is only recently that its value in medicine and surgery has become generally recognized.

Cocaine, it is true, was extracted from coca leaves by the German chemist Niemann as far back as 1860, but the drug made its way slowly, and even to-day there are many who regard it as more harmful than beneficial.

Cocaine, however, is only one of the constituents of the coca leaf, and there is good reason to believe that it is not the most important. Certainly, if all the wonderful accounts that the people of the Andean regions give of it be true, we have yet much to learn about the properties of the leaf of the "divine plant," as it was known among the Incas.

When the first Spaniards arrived in Peru, they heard such extraordinary stories from the Indians about the virtues of coca, that they were disposed to regard their use of the leaf as connected with some of their superstitious or idolatrous practices, and several attempts were accordingly made by the Spanish authorities to abolish its use altogether. The belief of the natives that coca gave them strength was denounced as *una ilusion del demonio*—an illusion of the devil—and the use of coca was consequently tabooed by the Spaniards as beneath the notice of any one but an ignorant savage.

But, notwithstanding all the denunciations hurled against the use of coca, the cultivation of the plant received greater attention from year to year, until Garcilaso de la Vega was able to write, "This plant has been, and is the principal wealth of Peru for those who are engaged in its trade." And in spite of the strenuous opposition that still prevailed against the use of coca in many quarters, keen observers and broad-minded ecclesiastics like Padre Blas Valera and Padre José de Acosta had the courage to rise in its defense as a medicinal agent, and declared that it would be as reasonable to prohibit the use of maize, fruit, vegetables and water as to prohibit coca, because all these things, as well as coca, had been used in sacrificial worship by ancient idolaters and modern wizards and diviners.

Acosta writes as follows: "Their use," that of the In-

dians, "is to carry it in their mouths, chewing it and sucking out the juice, but they swallow it not. They say it gives them great courage and is very pleasing unto them. Many grave men hold this as a superstition and a mere imagination; for my part, and to speake the truth, I perswade not myselfe that it is an imagination; but contrariwise, I thinke it works and gives force and courage to the Indians, for we see the effects, which cannot be attributed to imagination, as to go some daies without meate, but only a handful of coca, and other like effects."¹

The Spaniards, however, soon found a more convincing argument of the efficacy of coca as used by the natives. They discovered that the Indian's capacity for work was greatly increased by the use of coca; that the leaf was not only a stimulant but a nutritious refreshment to them; that if they wished to get the best work out of those engaged in the mines and on the plantations, it was necessary to make them a regular allowance of their favorite leaf.

So great was its consumption by the Indians employed in the mines of Peru in the latter part of the sixteenth century that Acosta informs us that "the trafficke of coca in Potosi doth yearley mount to above half a million dollars, for that they use foure scoure and tenne, or foure scoure and fifteen thousand baskets every yeare. In the yeare one thousand and five hundred eighty-three, they spent a hundred thousand."²

Since that time the coca industry has increased until to-day the annual production of Bolivia alone amounts to seven million pounds. Only a small proportion of this is exported, the greater part of it being consumed by the Indian and mestizo laborers of the republic. To the Indian of the Andean lands from Chile to Colombia, coca is what betel is to the Hindu and what tobacco is to the rest of mankind. And it is more. Not only is it a narcotic and a sedative, but it is meat and drink to myriads of the toiling

¹ Op. cit., Book IV, Chap. XXII.

² Ut. sup.

inhabitants of what was once the great empire of the Incas.

A part of every Indian's apparel is his *chuspa*, or coca-bag, which he carries over his shoulder, suspended at his side. In this bag he carries, in addition to coca leaves, a certain amount of unslacked lime, or carbonate of potash, prepared by burning the quinoa plant. This is called *llipta*, which, apart from its chemical action on the coca leaves, gives to them a relish which the Indian finds agreeable.

Three or four times a day the Indian suspends labor for about a quarter of an hour, for his *acullicar*¹—mastication of coca. With him it takes the place of a smoke with us, but the benefits accruing from it, when the leaf is not used to excess, are immensely greater. "Each man," Tschudi informs us, "consumes, on the average, between an ounce and an ounce and a half per day, and on festival days about double that quantity."²

The amount of work done by an Indian in Bolivia or Peru is in proportion to the coca he consumes. The more coca, the more work, and vice versa.

More singular still is the fact that coca is used by the Indian *cargueros*—burden bearers—as a measure of distance. A chew—*acullico*—lasts him about forty minutes, during which time he travels three kilometers on level ground and two kilometers up hill. The distance which he travels with this chew is called a *cocada*. Eight or ten minutes after taking a number of leaves of his favorite plant into his mouth, he experiences new vigor, or as he expresses it, he is *armado*. His average load is four *arrobas*—one hundred pounds—and the usual distance he travels each day, according to his mode of reckoning, is from six to eight *cocadas*.³

¹ This is the term employed in Bolivia and southern Peru; in northern Peru the operation is called *chacchar*.

² *Travels in Peru*, p. 315, New York, 1854.

³ Compare *El Peru*, Tom. 1, p. 69 et seq., por Antonio Raimondi, Lima, 1874.

The endurance of the Indian, and the feats he is capable of performing, when he has a liberal supply of coca, are truly astonishing, and would seem incredible, if they had not been verified by travelers and men of science whose testimony is unquestionable. Dr. José M. Valdez y Palacios, a Brazilian traveler, writing of this matter, declares that an Indian with a handful of roasted corn and his usual supply of coca leaf—*fohla sagrada*—as he terms it, will travel a hundred miles afoot and keep pace with a mule or a horse.¹ Dr. Spruce tells us that the Indian with a chew of coca in his cheek will travel two or three days without food or a desire to sleep. Stevenson assures us that the *chasquis*, or runners, who carry letters from Lima, travel upwards of a hundred leagues without any other nourishment than coca, thus keeping up the best traditions of their predecessors in the days of the Incas. According to Montesinos, Huayna Capac was able, through these fleet-footed *chasquis*, to eat fish that had been caught in the Pacific the day before, although three hundred miles distant.

Tschudi relates that he had a cholo employed in very laborious digging and that during "five days and nights he never tasted any food, and took only two hours of sleep nightly. But at intervals of two and a half or three hours he regularly masticated about half an ounce of coca leaves and he kept an *acullico* continually in his mouth. I was constantly beside him, and therefore, I had the opportunity of closely observing him. The work for which I engaged him being finished, he accompanied me on a two days' journey of twenty-three leagues, across the level heights. Though on foot, he kept up with the pace of my mule, and halted only for the *chacchar*. On leaving me, he declared that he would willingly engage himself for the same amount of work, and that he would go through it without food, if I would but allow him a sufficient supply of coca. The vil-

¹ *Viagem da Cidade do Cuzco a de Belem da grao Para, pe los rios Vilcamayu, Ucayali e Amazonas*, Rio Janeiro, 1844-46.

lage priest assured me that this man was sixty-two years of age, and that he had never known him to be ill in his life."¹

From my own experience with the Indians in my employ in the Andean regions, I have no doubt that the coca leaf, as used by them, contains a powerful nutritive principle. It is quite impossible, on any other assumption, to explain the long journeys I have known them to make and their long-continued toil with little or nothing to sustain them but a quid of coca leaves.

Relying on his own observations, and on those of others, whose testimony is above suspicion, Tschudi concluded that "The coca plant must be considered as a great blessing" to the Indian who, without it, "would be incapable of going through the labor he now performs. Setting aside all extravagant and visionary notions on the subject, I am clearly of the opinion that the moderate use of coca is not merely innocuous, but that it may be very conducive to health. In support of this conclusion, I may refer to the numerous examples of longevity among Indians, who, almost from the age of boyhood, have been in the habit of masticating coca three times a day, and who, in the course of their lives, have consumed no less than two thousand and seven hundred pounds, yet, nevertheless, enjoy perfect health."²

Such being the marvelous properties of the divine plant of the Incas, it is not surprising that the Indians consider it a panacea for all ills, and that some of them entertain the belief, as Poeppig informs us,³ that if a dying man can

¹ Op. cit., pp. 316-317.

² Op. cit., p. 316. Dr. Tschudi, in the estimate here given, alludes to individuals who attained the great age of one hundred and thirty years, which he claims is not singular. "Supposing these Indians to have begun to masticate coca at the age of ten years, and calculate their daily consumption at a minimum of one ounce, the result is the consumption of twenty-seven hundred weight in one hundred and twenty years."

³ *Reise in Chile, Peru und auf dem Amazonenstrom während der Jahre 1827-32*, Vol. II, p. 252, Leipzig, 1836.

appreciate the taste of coca leaves pressed to his lips, his soul will enter paradise.

Indeed, all that the Indian or the man of science might say of the wonderful virtues of coca has been embodied by the poet Cowley in the following verses from his fifth *Book of Plants*:

“Each leaf is fruit, and such substantial fare,
No fruit beside to rival it will dare.

“Our Viracocha first this coca sent,
Endowed with leaves of wondrous nourishment,
Whose juice succ’d in, and to the stomach tak’n,
Long hunger long, and labor can sustain;
From which our faint and weary bodies find
More succor, more they cheer the drooping mind,
Than can your Bacchus and your Ceres join’d.”

I have enlarged somewhat on the marvels of coca not only on account of the interest that attaches to the plant and its past history, but also because I think it is desirable that people outside of the Andean lands should know more about it than they do at present. If some of our government chemists, who are interested in pure foods and drugs, would devise means of transporting coca leaves from South America, so that we of the north might have them with all their virtues unchanged, they would render a distinct service to the cause of humanity, and would, at the same time, furnish a harmless substitute for that dangerous alkaloid, cocaine, whose ravages are rapidly becoming as widespread as those of opium and morphine.

Aside from its coca, one of the most interesting things in Bolivia is the famous silver mountain of Potosi. The republic is celebrated for its mines of gold, silver, tin and other metals, but in no mineral region in the world has “Nature ever offered to the avidity of man such mines of riches as those of Potosi,” that *pretiosa margarita de la Naturaleza*, which, it has been estimated, has produced

from two to four billions of dollars. According to Humboldt, the amount of silver yielded by the Cerro del Potosi, during the first eleven years after the discovery of ore in it, that is, from 1545 to 1556, amounted to more than six hundred million dollars. And the same authority also declares in his *Essai Politique sur la Nouvelle Espagne* that this mountain, then in the viceroyalty of Peru, "has yielded from two to three times more silver than all the collected mines of Mexico."¹

Although it may never be possible to find another Cerro del Potosi in South America, it is, nevertheless, certain that there are untold fortunes awaiting the prospector in Bolivia and Peru. The mines of Cerro de Pasco, Hualgayoc, and Pulacayo, from which many hundred million dollars' worth of the precious metals have been taken, give some idea of the immense treasures still awaiting the enterprising miners of the future. "The abundance of silver in the chain of the Andes," Humboldt well observes, "is in general such that when we reflect on the number of mineral depositories, which remain untouched, or which have been very superficially wrought, we are tempted to believe that Europeans"—and he might have added, the people of the United States—"have yet scarcely begun to enjoy the inexhaustible fund of wealth contained in the New World."

While I was examining a splendid edition of Don Quixote in a large and well-stocked book-store of La Paz, I was reminded of a fact, not generally known, respecting a country that is usually regarded as illiterate. This is to the effect that the immortal Miguel de Cervantes, in a memorial to Philip II, in May, 1590, begged for an appointment to one of the vacant offices in the Indies, among which was that of corregidor of La Paz.² If he had obtained the verge

¹ Lib. IV, Chap. XI. In his *Nouvelle Géographie Universelle*, Vol. XVIII, p. 678, Reclus declares that the twelfth part of all the precious metals in circulation in the world since the discovery of America came from Potosi.

² In his memorial Cervantes prayed the monarch "le hiciese merced de un

of office so eagerly desired, would Bolivia now pride herself on being the cradle of *El Ingenioso Hidalgo de la Mancha*?

Although La Paz is quite isolated from the rest of the world, one will find here all that culture and refinement which prevail in other parts of Latin America. Everywhere I went, I had abundant evidence of this, but particularly at a banquet which my host, who was hospitality and courtesy personified, was kind enough to give in my honor. A number of the most distinguished people of the city were present, among whom were a goodly proportion of ladies. I found them not only refined and cultured, but highly educated and fully abreast with the intellectual movement of the world. Their sympathies were broad and they displayed an intelligent interest in literature and science, that would have done credit to the polished habitués of a Paris salon. "Their dispositions," writes an English traveler of the last century, "like those of the South American ladies in general, have been justly defined as being a happy medium between French vivacity and English reserve. Their faces are handsome and their figures good; their carriage, like Spain's dark-glancing daughters, from whom they descend, is easy, genteel and graceful, without any of that *air maniéré*, so much studied by the French ladies, or any of that want of grace so conspicuous in our own."¹

While listening to a debate in the Bolivian senate, I was strongly confirmed in the view, I have long entertained, regarding the separation of Upper from Lower Peru—that it was a grave political mistake. Bolivar's union of Venezuela, New Granada and Ecuador, was, in my opinion, as

oficio en las Indias de los tres ó cuatro que al presente estan vacos, que es el uno la contadaria del Nuevo Reino de Granada ó la gobernacion de la provincia de Socunusco, en Guatemala, ó contador de las galeras de Cartagena ó corregidor de la ciudad de la Paz." Navarrete *Vida de Cervantes*, p. 313.

¹ *Travels in Various Parts of Peru, Including a Year's Residence in Potosi*, by Edmond Temple, Vol. I, p. 407, London, 1830.

I have stated elsewhere,¹ for the best interests of these three countries, and it is to be hoped that the day is not far distant when Greater Colombia can be reconstructed and placed on an enduring foundation. But, making a new republic of Upper Peru, which was named after the Liberator, was, I cannot help thinking it, detrimental to both Bolivia and Peru. If they were united, as it seems they should be, and could enjoy the blessings of wise and enterprising rulers, like those who, during recent years, have guided the destinies of Peru, they would, in virtue of their geographical position and their boundless natural resources, be second to no commonwealth in South America. As it is, Bolivia has no seaport of her own, and can have no communication with foreign nations, except through the adjacent republics. Her territory, owing to the encroachments of her neighbors, is much smaller than it was in Bolivar's time, and there is reason to believe that it is only a question of time until, like Poland, it shall be partitioned by the contiguous republics, whose covetous eyes are ever fixed on the inexhaustible treasures within her boundaries. There are many far-seeing and patriotic men in both Bolivia and Peru who would gladly forestall such a fate, but private interests and petty jealousies in the two countries which should always have remained one and inseparable, have so far retarded the much-desired reunion.

In an interview with President Montes, I told him of my intention of crossing the continent by way of the Amazon, and one of its tributaries. He immediately, to my surprise, became intensely interested in the project. He spoke most appreciatively of the work of American explorers in Bolivia, especially of Gibbon, Church and Heath, and most entertainingly of his own travels in distant parts of the republic. And then, graciously turning the conversation to my own travels, he finally said: "I hope you will decide to make your way to the Amazon by one of our Bolivian riv-

¹ *Following the Conquistadores up the Orinoco and down the Magdalena*, Chap. XI.

ers. There are many of them, as you know, and I am sure you would enjoy a trip down one of them. The fauna and the flora and the various Indian tribes, which you will see on your way, will, I am convinced, have a special interest for you." And then he proceeded to map out an itinerary for me.

"If you wish," he continued, "to follow in the footsteps of your countryman, Gibbon, who was here more than fifty years ago, you can go to Cochabamba, a few days' journey southeast of here, whence you can reach the Madeira either by the Beni or the Mamoré. Or if you desire to prolong your journey somewhat, you can visit the interesting old town of Santa Cruz de la Sierra, which was founded more than three and a half centuries ago, and where, by the way, there is a university as well as in Cochabamba. From this place you can reach the Mamoré by way of the Rio Negro. Once on the Mamoré you will have easy sailing to the Falls of the Madeira, above San Antonio. Here you will be at home, for, as you are aware, your countrymen are now engaged in constructing a railway around the falls and rapids, which road is to put Bolivia into direct communication with the Amazon, and give an outlet to the many products of this hitherto undeveloped part of our country. It is singular, but it is true, that it was Lieutenant Gibbon who suggested, more than half a century ago, the railroad his countrymen are now building, and which we hope soon to see in successful operation. Then a trip from the United States to Bolivia or the reverse, far from being a painful journey, as it is at present, will be a delightful excursion,—a great part of it through the most interesting part of South America.

"Now, Sr. Doctor," concluded the President, "if, after reflection, you think you would like to go to the Amazon by any of its Bolivian affluents, you may count on me to do anything in my power to make your journey pleasant and profitable."

I thanked the President for his very kind offer, but

begged time for reflection. To make the trip indicated, and under such very favorable conditions, was certainly very tempting. If I had not restrained myself and taken time to consider the matter, I should certainly then and there have arranged for my return home by way of the Mamoré and the Madeira. After more mature deliberation, however, I determined to adhere to my original plan and follow, as closely as possible, in the footsteps of the conquistadores. None of them had traveled by the Mamoré or Beni or Madeira, and as a matter of sentiment, if for no other reason, I lost no time in getting back to the great highways of the Spanish conquerors, and to lands which their deeds of high emprise have made forever memorable. Still I did not wholly abandon the idea of making the journey so kindly outlined by President Montes. It was simply deferred—to be part of a contemplated trip through the heart of South America from Caracas to Buenos Aires by way of the Apure, Orinoco, Cassiquiare, Rio Negro, Madeira, Pilcomayo and Paraná rivers. This project, first conceived at the mouth of the Meta, had grown more fascinating the more I thought of it, until at last it became a fixed purpose to be, *Deo volente*, sooner or later realized.¹

¹ See *Following the Conquistadores up the Orinoco and down the Magdalena*, p. 142.

CHAPTER XI

THE BAALBEC OF THE NEW WORLD

The morning after my interview with President Montes I was on my way to the celebrated ruins of Tiahuanaco—in many respects the most extraordinary ruins in the New World. Thanks to the courtesy of the traffic manager of the La Paz railroad, a delightful party was gotten together, among whom was the minister of public works, who, having the ruins under his direction, was thoroughly familiar with them. He kindly offered to be our *cicerone*, in which rôle he proved most competent and entertaining. When we arrived at the depot, there was a special train waiting for us, and, on entering our car we found, to our great surprise and pleasure, that preparations had been made to serve an early luncheon, while we were on our way to Lake Titicaca. A delicious luncheon it was; but more delightful far was the spirit of good fellowship that dominated every member of the party, and the constant delicate attentions of our host, who apparently had no thought but the comfort and pleasure of his guests.

We arrived at the village of Tiahuanaco shortly before noon, and at once proceeded to the ruins, which are but a short half mile to the southward. They are on a broad and arid plain, one hundred and thirty-five feet above Lake Titicaca, from whose southern shore they are twelve miles distant. The area occupied by them is about a square mile where, in addition to a number of shapeless mounds of earth, there are remarkable traces of five different stone structures, which writers, for the purpose of classification, have agreed to call the fortress, the palace, the temple, the sanctuary and the hall of justice. The materials used in

their construction are trachyte, basalt and red sandstone. The fortress, to judge from its present condition, originally resembled a Mexican *teocalli* or the pyramid of Sak-karah in Egypt, and must, when first erected, have presented a very imposing appearance. It is a great terraced mound of earth, supported by stone walls, is fifty feet high, six hundred and twenty feet long and four hundred and fifty in width. It is, however, in a very dilapidated condition owing to the depredations of treasure-seekers and to its being for centuries used as a quarry, whence material was obtained for buildings in the neighboring towns for the railroad and even for structures in La Paz. The temple is in the form of a rectangle, three hundred and eighty-eight by four hundred and forty-five feet. It has been very appropriately called the American Stonehenge, to which, at least in some of its monoliths, it bears a striking resemblance. The other three edifices, especially the hall of justice, are likewise remarkable for the area they occupy and for the cyclopean masses of stone that still remain to attest the extraordinary character of their construction.

It is these wonderful megaliths, rivaling anything found in Italy, Greece, or Asia Minor, that have excited the astonishment of travelers since the time of the conquest. The platform, for instance, of the hall of justice is paved with immense slabs, some of which are twenty-five feet long, fourteen feet broad and nearly seven feet thick. But the most remarkable feature in these cyclopean structures is the great monolithic gateway of very hard trachyte, ornamented with numerous well-executed sculptures, apparently of a symbolical character. This is more than thirteen feet long, seven feet above ground and eighteen inches thick.

Some of the stones are in a rough and unhewn condition, but most of them are cut and fashioned in the most remarkable manner. Squier, in referring to this feature of these extraordinary ruins, writes as follows:—"Remove



MEGALITHIC RUINS OF TIAHUANACO, BOLIVIA.



PORTAL OF THE PRE-INCAIC RUINS OF TIAHUANACO, BOLIVIA.

the superstructures of the best built edifices of our cities, and few, if any, would expose foundations laid with equal care, and none of them stones cut with such accuracy. And I may say, once for all, carefully weighing my words, that in no part of the world have I seen stones cut with such mathematical precision and admirable skill as in Peru, and in no part of Peru are there any to surpass those which are scattered over the plain of Tiahuanaco.”¹

“The ruins of Tiahuanaco,” continues the same writer, “have been regarded by all students of American antiquities as in many respects the most interesting, important and at the same time most enigmatical of any on the continent. They have excited the wonder and admiration alike of the earliest and latest travelers, most of whom, vanquished in their attempts to penetrate the mystery of their origin, have been content to assign them an antiquity beyond that of the other monuments of America, and to regard them as the solitary remains of a civilization that disappeared before that of the Incas began, and contemporaneous with that of Egypt and the East. Unique, yet perfect in type and harmonious in style, they appear to be the work of a people who were thorough masters of an architecture which had no infancy, passed through no period of growth and of which we find no other examples. Tradition, which mumbles more or less intelligibly of the origin of many other American monuments, is dumb concerning these.”²

When the conquistadores asked the Indians regarding the origin of these wonderful ruins, they were told that “they were made in a single night by invisible hands”; that “they existed before the advent of Manco Capac and his sister-wife, Mama Ocllo;” that Tiahuanaco was the abode

¹ *Peru, Incidents of Travel and Exploration in the Land of the Incas*, p. 279, London, 1877. The reader, who is interested in the subject, can verify this very positive statement by consulting the splendidly illustrated volume, entitled *Die Ruinenstätte von Tiahuanaco im Hochlande des Alten Peru*, von A. Stübel und M. Uhle, Leipzig, 1892.

² *Op. cit.*, p. 274.

of Pachacamac, the Creator of the Universe, and hence "the superb edifices, so worthy of admiration in that place"; that here "the Creator began to raise up the people and nations that are in that region"; that "here he gave to mankind the languages they were to speak, and to the birds the songs they were to sing;" that here he created, as stated in the preceding chapter, the sun, moon, and stars, after which he ordered them to go to the island of Titicaca and thence to rise to heaven.

They declared, furthermore, that the statues at Tiahuanaco, which were far more numerous at the time of the conquest, than at present, were men and women whom the Creator had changed into stones for disobedience and rebellion.¹ Others, however, attributed to them a different origin. They said that the people of Tiahuanaco were engaged in drinking and dancing when Tonapa Uiracocha, the Apostle of St. Thomas, "came to preach to them, and they did not listen to him. Then, out of pure anger, he denounced them in the language of the land; and when he departed from that place, all the people who were dancing were turned into stones as may be seen to this day."²

The ruins of Tiahuanaco made a deep impression on the early Spanish writers, especially Acosta, Cieza de Leon and Garcilaso de la Vega. Acosta says he measured one of the great stones and found it to be thirty-eight feet long, eighteen broad and six deep. Its weight, therefore, must have been about seven hundred tons. What most impressed Cieza was the fact that "in all this district there are no quarries whence the numerous stones can have been brought, the carrying of which must have required many people."

This same fact has equally impressed all subsequent investigators. So far as is known, there is no sandstone similar to that occurring in the ruins to be found nearer than fifteen miles, while the nearest place at which

¹ Molina, *op. cit.*, p. 6.

² Salcamayhua, *op. cit.*, p. 73.

trachyte and basalt can be procured is Copocabana, which, in a straight line across the lake, is forty miles distant.

How were the immense monoliths used in these structures transported such distances? A similar question has for centuries been awaiting an answer regarding the megalithic monuments of Egypt. How were the immense sarcophagi of the pyramids, and the giant obelisks of Luxor and Heliopolis, transported from the quarries of the Upper Nile to the positions they now occupy?

Cieza expressed it as his belief that the ruins of Tiahuanaco are "the most ancient in all Peru." He also anticipated the conclusions of modern research by recording the opinion that "these edifices, from what now appears, were not completed."¹ They are not, therefore, strictly speaking, ruins at all, but the remains of vast structures on which, for some reason or other, work was abandoned before they were half finished, as were some of the edifices at Baalbec.

But when, the reader will ask,—as every visitor asks,—was work begun on the foundations of these astonishing structures? By whom? For what purpose? With what tools were the exceedingly hard masses of trachyte and basalt fashioned into the perfect forms we now behold? Why were such structures projected on this lofty, bleak, inhospitable plateau? And why, after so much was accomplished, was the work left uncompleted?

No satisfactory answer can be given to any of these questions. Notwithstanding the exhaustive researches of many of the most competent of modern archaeologists, their conclusions are as yet nothing more than mere conjectures. I shall, therefore, in a few words, reply to the above questions in the words of those who have made a special study of Peruvian antiquities and whose opinions, consequently, may be accepted as the last word on "The ruins of a race extinct."

¹ Op. cit., Cap. CV. Cf. *Monumentos Prehistoricos de Tiahuanaco*, published by M. V. Ballivian, La Paz, Bolivia, 1910.

Max Uhle, the curator of the archæological museum in Lima, and a recognized authority on Peruvian antiquities, contends that chronology in Peru is "determined by cultural periods, which develop, flourish and decay the same as man. In Peru he finds five of these cultural periods, and assumes them to have the same duration—an average of about five hundred years—as have the cultural periods of Hallstadt, La Tène and Egypt. Accepting these premises as established, his conclusion is as follows:

"The development of Peruvian civilization, accepting the average five successive periods, would result in a stratification of cultures representing between two and three thousand years. About the year 1000 B. C., at the time when Solomon built his temple, the early Americans in Peru reared their mighty structures to the glory of a creator god. Civilization in America would, beyond all doubt, have worked itself up to a high plane at some time, and might have accomplished alone a peculiar but certainly a brilliant development without the intervention of European civilization." ¹

This conclusion seems to accord in an extraordinary manner with the catalogue of the one hundred and one Peruvian monarchs, as given by Montesinos in his *Memorias Peruanas*. According to this writer, who went to Peru a hundred years after the conquest, and devoted fifteen years to travel in the viceroyalty, the empire of the Incas dates back to 4004 B. C., about five hundred years after the Biblical deluge. This was in keeping with his views that Peru was the Ophir of Solomon and that America was peopled from Armenia. If such be the antiquity of the Inca empire, the western world, of which it formed a part, is wrongly called the new, for

. . . "This clime was old
When first the Spaniard came in search of gold."

¹ Harper's Magazine, Vol. 107, pp. 780-786, 1903. See in this connection his interesting work, *Pachacamac*, Philadelphia, 1903.

Major Leonard Darwin, president of the Royal Geographical Society, in a

As to the builders of Tiahuanaco, M. L'Angrand, after a careful study of the ruins on the Bolivian plateau, and a comparison of them with the monuments of Mexico, Central America and Yucatan, concludes that they came from the north. He contends that the theogonies and civilizations of the people of the south, if not identical with those of the north, were so nearly alike as to prove unity of origin. The same may be said of the symbols, revealed by the sculptures of Tiahuanaco, when compared with those employed at Palenque, Uxmal, Ococingo and Xochicalco. Such being the case, he feels warranted in concluding that "The people who raised the monuments of Tiahuanaco were a branch of the great western Toltec family of Nahuatl or California origin."¹

This view is favored by Humboldt, Tschudi, Middendorf and many others, but there are polygenists like Agassiz, Morton, and others, who maintain that the American Indian is autochthonous and, therefore, ethnologically independent of the races of the Old World. It is not my purpose, however, to open up the vexed question of the unity of the human species, farther than to observe that there is as yet no conclusive evidence against the tradi-

recent discussion regarding the age of the ruins of Tiahuanaco, expressed himself as follows: "Judging by the age now generally assigned to the pyramids of Egypt, it would not be an outrageous supposition to suggest that these megalithic remains may be 4,000 years old." *The Geographical Journal*, p. 392, London, Oct., 1910.

¹ *Lettre sur les Antiquités de Tiaguanaco et l'Origine Présumable de la plus Ancienne Civilisation du Haut-Perou*, p. 44, Paris, 1866. Cf. also, Inwards, R., *Temple of the Andes*, London, 1884, and *Fouilles Archéologiques à Tiahuanaco*, Paris, 1908, par G. Courty et Adrien de Mortillet. Sir Clements Markham in his latest work, *The Incas of Peru*, asserts that "The builders may best be described as a megalithic people in a megalithic age, an age when cyclopean stones were transported, and cyclopean edifices raised."

Answering the question as to the direction whence these megalithic people came, he quotes a tradition recorded by the old Spanish chroniclers, which points to the south, to Charcas and to countries below the southern tropics, as the sources of the population of the ancient megalithic empire, which "extended its sway over the Andean regions from Tucuman to Chachapoyas, with Tiahuanaco, for want of the real name, as its center of rule and of thought," pp. 29, 31, 36, New York, 1910.

tional view of the descent of all mankind from a single pair. Such being the case the inference is that the builders of Tiahuanaco were originally from the Old World, whether from Europe or Asia is yet to be determined.

As to the purpose of these structures and the reason for locating them on an elevated, arid, chilly plateau, where it is difficult to secure subsistence for a large population, nothing is known. Any opinion given on the subject would be idle guesswork. The same may be said regarding the discontinuance of work on the buildings before their completion. Regarding the tools employed in cutting the stone used in these structures we are in almost complete ignorance. There is no evidence whatever that the builders had tools of iron or steel, and it is difficult to understand how the hard stones entering into the construction of these immense edifices could have been fashioned so perfectly by such primitive tools as those made from quartz, or from such a soft material as *champi*, which was a kind of bronze.

Truth to tell, everything about Tiahuanaco is, as yet, veiled in impenetrable mystery. We know no more about the originators of the mammoth structures of Tiahuanaco than we do about the Mound Builders of our own country, or about the rude sculptors of the colossal statues found on Easter Island. And we know absolutely nothing about their history, religion and language.

As I wandered, years ago, among the cyclopean ruins of Tiryns and Mycenæ, accompanied by an ardent friend of old Hellas, my companion continually gave expression to his surprise by repeating the two words, "Wonderful! Wonderful!" While exploring the monuments of Tiahuanaco, overwhelmed with astonishment at the magnitude of everything around me, and lost in the mystery which enveloped this city of departed greatness, I found myself at every turn—I recollect it well—giving vent to my strong emotion by the frequent repetition of the words "Stupendous! Stupendous!"

And these words, which spontaneously come to the lips of every visitor to this famous spot, but feebly articulate one's feelings of amazement and awe when contemplating the monuments of Tiahuanaco, which, as Desjardins has truthfully remarked, "by reason of their character of religious grandeur and solitary majesty, are comparable only with those of Karnak, Abu-Simbel and Luxor."

Commenting on the ignorance, that in his time, prevailed regarding everything pertaining to Tiahuanaco, Cieza de Leon, the Herodotus of Peru, and "The Prince of American Chroniclers," as Jimenez de la Espada calls him, expresses himself as follows: "Seeing that all these things are hidden from us we may well say, 'Blessed be the invention of letters!' by virtue of which the memory of events endures for many ages, and their fame flies through the universe. We are not ignorant of what we desire to know, when we hold letters in our hands. But in this new world of the Indies, as they knew nothing of letters, we are in a state of blindness concerning many things."¹

But it is probably Lord Houghton who best voices the thoughts of the spectator at Tiahuanaco in his poem on *Pelasgian and Cyclopean Walls*, which begins as follows:

"Ye cliffs of masonry, enormous piles,
Which no rude censure of familiar time
Nor record of our puny race defiles,
In dateless mystery ye stand sublime,
Memorials of an age of which we see
Only types in things that once were ye."

¹ Ut. sup.

CHAPTER XII

THE HOME OF THE QUICHUAS

The second morning after leaving Tiahuanaco, we were again in Puno on our way to Cuzco, the famous capital of the Inca empire and justly called the Rome of South America.

Scarcely had I disembarked from the steamer, which had brought me from Guaqui, when I was cordially greeted by the division superintendent of the Southern Railway of Peru, who informed me that, in compliance with instructions from the general manager, he had a special train in readiness to take me to Checacupe, the then end of the line that was building to Cuzco. "I have also," he said, "ordered breakfast for you, as I am sure you must have an appetite after your sail in the cool, crisp air of Lake Titicaca." Then, giving the train conductor instructions to have everything in readiness, as soon as I should be ready to start, he accompanied me to a cozy dining-room near by, where a splendid breakfast was served.

While there, I met two young men from Yale University—one a student and the other a member of the faculty. They had just come from Bolivia, and, like myself, were on their way to Cuzco. As soon as I learned this, I invited them to accompany me in my special train—an invitation they were as glad to accept as I was to extend. As events proved, it was a providential meeting for all three of us, for they were congenial traveling companions, and contributed much to the pleasure of the journey while we were together.

After being the recipient of numerous delicate attentions

from the courteous superintendent and his obliging assistants, I was finally able to board the train with my young countrymen, and, while the railway officials were yet bidding us God-speed, we were on our way to the City of the Sun, and following the same course as had been taken by Manco Capac and Mama Oello nearly a thousand years before.

To one who loves the romance of history and is fond of legendary lore, the narrow strip of territory extending from Tiahuanaco to Cuzco has an interest and a charm not possessed by any other region in the New World. In it are found the most remarkable monuments of South America, and about them are gathered the most cherished traditions of the two most remarkable indigenous peoples of the southern continent. We have learned something regarding the marvelous ruins of Titicaca, Coati and Tiahuanaco, but there are others equally worthy of attentive study, all the way from the northern shore of Lake Titicaca to Ollantaytambo in the lovely valley of Yucay, the most beautiful, probably, in all Peru.

Two of the most interesting places in the southern part of the belt between Lake Titicaca and the valley of Cuzco, are Lake Umayo, about ten miles towards the west of the railroad, and Azangaro, nearly the same distance towards the east.

Lake Umayo is celebrated for the large number of ruins around it and especially for the wonderful necropolis of Sillustani, where are found some of the most imposing and best preserved monuments in the Collao.¹ Here are hundreds of them, sometimes standing alone and sometimes in groups. They are called *chulpas*, are circular in form, and are usually constructed of large blocks of trachyte or basalt. Some of them are of very elaborate workmanship and measure sixteen feet in diameter and forty feet in height. They remind one of certain Pelasgic

¹The name given to the country surrounding Lake Titicaca, formerly inhabited by people called Collas.

towers in Italy, and the domes surmounting them are not unlike the topes and dagobas of India and Ceylon.

According to Squier, these very remarkable monuments are Aymara tombs and have a great antiquity.¹ Near these chulpas are other ancient remains so like the sun circles, or Druidical circles, of England and Northern Europe, that they would almost seem to have had a similar origin.

The town of Azangaro is famous for the decorations of its church and for a portion of an old house called *Sondor-huasi*, that dates back to the time of the Incas. The importance of this house, from an antiquarian point of view, is due to the fact that it still retains its original thatched roof,—the only one now remaining in Peru,—of ichu grass—*stipa ichu*—which was doubtless the roofing material of the rich Inca palaces of Peru. It seems incredible that such a roof should endure for centuries, as this one has, but there it stands, unless recently removed, as an instance of the adaptation of most perishable material for age-long use, and as a solitary specimen of that astonishing workmanship which has, in so many other respects, distinguished the structures and the enterprises of the Incas.

Aside from the interest which attaches to Azangaro, on account of its church and *Sondor-huasi*, it is celebrated in Peru as being, *par excellence*, the city of hidden treasure. Tradition has it that when the Indians were transporting gold and silver to Cajamarca for the ransom of Atahualpa they received news of his death on their arrival at Sicuani, and that, in compliance with orders from Inca Manco, then at Cuzco, to conceal the treasure, they buried it somewhere near Azangaro. Its value is usually estimated at seven million dollars. Besides this immense treasure, it is said that fifteen mule-loads of church plate were brought here

¹ Bandelier contends that these chulpas were not tombs, but storehouses. See his article on *The Aboriginal Ruins of Sillustani, Peru*, in the *American Anthropologist*, January-March, 1905. Von Tschudi and others considered them to be dwelling places and parts of fortresses.

in 1781 by Diego Tupac Amaru, and hidden somewhere in the town, or in its immediate vicinity. Some of the Indians are credited with knowing where the treasures are buried, but if so, they are unwilling to divulge the secret. Many attempts have been made to locate them, but so far, without result.

Antiquities, however, are not the only objects to claim the attention of the traveler on the way from Puno to Cuzco. There are first of all the people, mostly Aymara and Quichua Indians. All along the road one will see numerous towns and villages, and many extensive haciendas, on which range immense herds of cattle and flocks of alpaca sheep. This is, indeed, the favorite home of these latter animals. The sheep and the cattle are often in the care of pretty little shepherdesses and *vaqueras*—cow-girls—who, in spite of their desolate surroundings, seem to be pictures of health and contentment.

One of these graceful *vaqueras*, seated on a rock handling a distaff or playing the *pincullu*—Indian flute—while watching the grazing kine, would be an ideal subject for the brush of a Millet, a Mauve or a Poggenbeek. Of such an Andean maiden, in her gay-colored dress, in the glow of youthful vigor and beauty, one could truly say:

“La vi tan hermosa
Que apenas creyera
Que fuese vaquera
De la Finojosa.”

So cold is the climate of this elevated tableland that the soil yields but little for the support of its inhabitants, except barley, quinoa, oca, a certain variety of bean, and potatoes. In sheltered places maize is grown, but it is a very inferior product. Many of the vegetables of our northern zone might be cultivated here, but the Indians in this part of the world are as averse to innovations as are the inhabitants of Syria or Mesopotamia. The cabbage and similar vegetables would flourish here, but

they are rarely seen, at least in the gardens of the Indians.

The principal article of food among the natives of the highlands of Peru and Bolivia is the potato. In order to preserve it, and render it more palatable than it usually is in its natural state, it is frozen and dried, in which condition it is known as *chuño*. Boiled with vegetables and fragments of meat and fish, and seasoned with salt and *aji*—red pepper—it constitutes *chupe*—the staff of life of the *serranos*—mountaineers. At times, it is the only kind of food obtainable among the poorer classes of the inhabitants. Surprise is sometimes manifested that these people should be able to subsist on such a diet, with little or no change from one year's end to the other, but there is nothing more remarkable about it than the unvarying rice diet of the Chinese coolie, or the never-changing macaroni of the Neapolitan lazzarone.

After the train leaves Puno, there is a gradual ascent until it reaches La Raya, fourteen thousand feet above sea level, on the summit of a knot, or ridge, which connects the eastern with the western Cordillera. Here is the watershed between the closed basin of Lake Titicaca and the incomparably greater basin of the Amazon.

Here, too, is the dividing line between the Aymaras and the Quichuas. And so marked is it that one immediately recognizes it by the difference in the costumes of the people, especially those of the women. Here the *uncu*, a garment secured by two *tupus*—pins with a spoon-like head—and the curiously-shaped headgear of the Aymara woman give place to the short woolen skirt, the bright-colored *llicla*, or mantle, secured over the shoulders with one *tupu*, and the gayly-beribboned *montero*—a black broad-brimmed hat—of her Quichua sister.

But what interested me more than anything else at La Raya was the black water tarn that is the source of the Rio Vilcamayo, which, under the successive names of Yucay, Urubamba and Ucayali, constitutes the parent

stream of the mighty Amazon. I know this claim is usually made for the Marañon, whose source is Lauricocha, but many authorities, and I believe their number is increasing, incline to the belief that the Amazon has its birth in this modest lakelet which is fed by the glaciers of the overshadowing ranges of Vilcañota and Santa Rosa. Without, however, entering into a discussion of the case, which would be more or less futile, it will suffice to state that my companions and I agreed, at least for the time being, to consider the claims of the Vilcamayo as well founded. The train was accordingly stopped at this point to give us an opportunity of examining the head waters of the world's greatest river, and of taking a few photographs of the spot where they well forth to the earth's surface.

At this same point we have not only the fountain head of the Amazon, but also that of the Rio de Pucará, which empties its waters into Lake Titicaca. A slight breeze, that was then blowing, seemed to determine the flow of water in one direction rather than in the other, and one of our photographs was taken at the exact spot whence the waters start in opposite directions—part towards the south and part towards the north. I had witnessed similar places in other parts of the Cordilleras, but none of them impressed me so much as this one, four thousand miles from the mouth of the great river which here has its starting point in its wonderful course across the continent.

Had I not wished to visit other parts of Peru rendered famous by the conquistadores, I think I should have decided there and then to explore the Amazon from its birth-place, La Raya, to the broad embouchure where it greets the deep blue waters of the Atlantic. The temptation to make the trip was great, indeed, and it required a special exercise of will-power to resist it.

When in Quito I had been tempted to follow Orellana down the Napo, but that journey had been made so many hundreds of times, since the Spanish adventurer's memo-

rable exploit, by the zealous missionaries who evangelized the natives from Quito to the Amazon, as well as by recent explorers who have left us an account of their wanderings, that I did not find it difficult to forego a trip that, under other circumstances, would have appealed to me very strongly. How I was almost persuaded by the president of Bolivia to journey to the Amazon by the way of the Mamoré and Madeira, I have already recounted. There, moreover, was the same objection to reaching the Amazon by the Vilcamayo and the Ucayali as by the Mamoré and the Madeira. None of these rivers had been witnesses of the deeds of prowess of the conquistadores, as had some of the other tributaries of the Amazon, and this fact, aside from any other consideration, sufficed to reconcile me to what would otherwise have been a very great sacrifice.

The scenery along the Vilcamayo is, in certain stretches, wild and picturesque in the extreme. In places it rivals, if it does not surpass, anything seen in Switzerland or in the Tyrol. The lofty snow-capped range to the east, with its broad glacier fields high up in cloudland, and its immense terminal morains far below the line of perpetual snow, are sure to command the attention of the most casual observer. For the lover of mountains, however, and for the student of physical and geological phenomena, where Nature operates on so stupendous a scale, there is an added interest that never flags. Here one can witness the glaciers corroding and planing down, slowly but surely, those giant Cordilleras produced by Titanic agencies æons ago and watch how the detritus, formed by the grinding ice-rivers above, is carried to the lowlands thousands of miles distant to fertilize and build up what is yet in many respects but an unfinished continent.

The sun was beginning to gild the crest of the western Cordillera when we reached Checacupe, the terminus of the line at the time of our visit. In some way or other it had become known that a special train was coming, and a large crowd had gathered at the depot, in which, con-

spicuous by their peculiar somber dress, consisting of black trousers, dark-colored ponchos, and broad-brimmed, black felt hats and *usutas*, or sandals of llama-skin, were a number of Indian *alcaldes*, each with his staff of office. This staff resembles a long cane, and has a brass or silver head and ferule and a number of rings around it, one for each year the owner has held office. The Indian is very proud of this staff and always carries it with him when he appears in public. My companions tried to purchase a couple of them from the *alcaldes* present, but they soon discovered that there are some things that money cannot buy—among them the Indian's much-prized insignia of office.

I had scarcely stepped from the train when I was most cordially greeted by Mr. Mc——, the chief engineer of the railroad, who told me that he had come to claim me as his guest while I was in Checacupe. "Mr. T——," he said, "telegraphed me this morning from La Paz that you were coming; and I cannot tell you how glad I am to meet you. I am an American myself—from Missouri—and I am always pleased to see any one of my countrymen, who so rarely visit this little frequented part of the world, but I am specially glad to welcome a friend of Mr. T—— and Mr. A——," from whom I bore a letter of introduction. "They are the salt of the earth,—both of them."

Shortly after reaching Mr. Mc——'s home, dinner was served, during which I was entertained by my genial host with an account of the work on the railroad which, it was hoped, would soon be completed to Cuzco.

"I now have fifteen hundred Indians on the pay-roll," he said, in answer to my request for information regarding the men in his employ, "and I expect to have three thousand next week. All able-bodied Indians in this part of the country are obliged by the government to work on the road from fifteen to thirty days. For their service they receive fifty cents a day in silver—the equivalent of about half that sum in gold. If it were not for this com-

pulsory service, it would be difficult for us to find the laborers necessary for our work. Those who voluntarily continue in our employment, after their term of enforced service has expired—only about ten per cent. of them do so—receive an increase in salary, for they are, as a rule, better workmen than the others. These are paid from sixty to seventy-five cents a day in silver. Each peon removes about three cubic yards of earth a day, about one-third or one-fourth the amount that could be disposed of by one of our American workmen. The cost per yard, however, is less here than in the United States by reason of the much lower daily wage. The Indian supplies his own provisions, which consist chiefly of *chuño* and *coca leaves*."

The mention of coca leaves as an aliment led me to ask my host, who was a man of unusual intelligence and information, how he explained the trepanning as performed by the ancient Peruvians who were ignorant of the use of iron and steel, and who, consequently, must have employed the most primitive instruments for this delicate and painful operation, when the use of anæsthetics was unknown.

"I am not so sure," replied my host, "that the Children of the Sun were ignorant of anæsthetics. And assuming that they used an anæsthetic of some kind, which to me seems beyond doubt, a sharp piece of flint or obsidian might have sufficed for their rude attempts at surgery.

"A remarkable case, bearing on this subject, came under my observation only a few days ago. It is, indeed, so remarkable that it seems incredible, and, had I not been myself an eyewitness of the case, I should hesitate to believe it.

"One of our peons was run over by a car and had his foot amputated. He was immediately taken to the depot to await the company's surgeon, who came without delay. But when he arrived the Indian was gone. After searching for him, he was found in the plaza near by, apparently as apathetic, so far as pain was concerned, as if nothing

had happened. He had tied a rag around his ankle to stanch the flow of blood, and had made his way unaided and alone from the depot to the plaza of the town, near which we were then working. He declared that he experienced no pain whatever, a statement that astonished all of us beyond measure.

"On investigation we learned that he was a *coquero*—a habitual user of coca—and we then inferred that, in consequence of this habitual, if not excessive use of this anæsthetic, his sensory nerves had become insensible to pain. If our conclusion, and it seems justified, was correct, it serves to explain how trepanning might have been performed in the time of the Incas with a total absence of pain on the part of the patient. I can vouch for the truth of the incident I have narrated. I leave it to specialists in surgery to draw their own conclusions. As for myself, I am convinced that the coca leaf among the ancient Peruvians served the same purpose as the various anæsthetics which are now employed in modern surgery."

I refer to this remarkable incident, as I heard it from the lips of my host, for it seems to clear up a difficulty that has long confronted writers who have discussed the question of prehistoric trepanning in Peru. The conclusion seems warranted, but this is not the place to do more than call attention to the incident in question. *Relata refero*.¹

¹ For an elaborate discussion of this curious subject the reader is referred to a contribution entitled *Primitive Trephining in Peru in the Sixteenth Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution, 1894-1895*, by Manuel Antonio Muñiz, M.D., and W. J. McGee. From an examination of a trephined skull taken from an Inca cemetery, Dr. Paul Broca, the noted anthropologist, concluded that "there was in Peru, before the European epoch, an advanced surgery." In an interesting paper by A. Bandelier entitled *Ueber Trepanieren unter den heutigen Indianern Bolivias*, and read before the International Congress of Americanists at Stuttgart in 1904, the author declares that trephining is still practiced in Bolivia by the *Callahuayas*—Medicine Men—among the Aymaras, and that there is reason to believe that it is still practiced by the Quichuas of Peru. The operation is performed with the rudest kind of instruments—a penknife, a chisel or a piece of obsidian. So far I have been

Although Checacupe is only a small mountain town of about fifteen hundred inhabitants, and in no wise different from other towns on the plateau, it, nevertheless, possessed a special interest for me because of its history. It was here that the ill-fated Tupac Amaru—the heroic Inca chief—in 1781 made his last effort to redress the grievances of his people, and it was near this place that he was betrayed into the hands of the Spaniards, who put him and his family and sympathizers to a cruel and ignominious death. The Inca's execution sounded the death knell of the hopes and aspirations of his countrymen, but his death was not in vain. In consequence of his attempt to ameliorate the condition of his race, and the constant menace that existed of a similar uprising in other parts of the viceroyalty, new laws were enacted looking to the relief of the Indians, who had in many places been treated as serfs, who had no rights that anyone was obliged to respect. But the iniquitous deed was committed and Tupac Amaru's betrayal and execution will forever remain a foul blot on the annals of the colonial government of Peru.

The distance from Checacupe to Cuzco is sixty-three miles, but, thanks to the splendid road between the two places, and the good mules placed at our disposition, we were able to traverse this distance in one day. The road—*carretera* it is called here—was constructed some years ago by an enterprising Irishman, and is one of the best in Peru. A number of American stage-coaches were, at the time of our visit, used for the transportation of passengers, while several traction engines and cars were employed for carrying freight. These vehicles, however, have been discarded since the completion of the railroad which, for a part of the distance, follows the course of the *carretera*.

unable to find any account of trephining in the early chroniclers. That they should have passed over in silence an operation that was as common as it was remarkable seems extraordinary.

THE HOME OF THE QUICHUAS

Through the kindness of my host, our journey from Checacupe to the old Inca capital was made in a comfortable surrey from Cincinnati. It may be imagination, but the fact that we were able to make the trip in a vehicle from the land of the Stars and Stripes seemed to enhance the pleasure of a day that for all of our party will ever be memorable.

The weather was ideal, and the country through which we passed, with all its marvelous scenery, its interesting traditions and historical associations, was such that we at times felt that we were in a land of romance and enchantment. There is, indeed, no stretch of territory in the New World that possesses for the student and the historian so many objects of interest, so much to arrest one's attention at every turn, as the narrow belt between Tiahuanaco and Cuzco. And the nearer one approaches the famous old capital of the Children of the Sun the more one feels under the spell of the past glories of the great empire of Tahuantin-suyo.¹

When we left Checacupe, which was shortly after sunrise, the atmosphere was so chilly that, in order to keep warm, we were obliged not only to wear overcoats, but also to use heavy lap-robcs in addition. It was not, however, long before the beneficent lord of the day took the frost out of the air and then it became as balmy and delightful as a May morning in the Italian Riviera. It was not then difficult to understand why the Incas of old worshiped the sun and why they acknowledged him as their chiefest benefactor. It was, as Markham well expresses it, because "Yuti, the Sun, was to them the soul of the universe, the fountain whence flowed the blessings they enjoyed, the ripener of their harvests, the cheering watcher of their labors, the producer of their beautiful flowers, and the

¹ This word in Quichua signifies the four parts of the world, and was used to designate the empire of the Incas. In Aymara the same word means, the region of the four Andes, which constituted the boundaries of the Inca empire.

progenitor of their beloved Inca.”¹ It was for the same reason that prompted the people of the coast land to worship *Mamacocha*—Mother Sea—for it was the prolific ocean that supplied them with food, as it was the fostering sun that made vegetation and life possible on the highlands.

This idea is expressed in characteristic Indian fashion in the reply sent by the Chinchas to the demand that they yield obedience to the Inca Pachacutec, child of the Sun. Their answer was, “That they neither wanted the Inca for their lord, nor the sun for their god; that they already possessed a lord to serve, and gods to worship; that their common god was the sea, which anyone could see was a greater thing than the sun, for that it yielded them plenty of fish, while the sun did them no good at all, but rather annoyed them by its excessive heat; that their land was warm and had no need of the sun, whilst those in the sierra, where the country is cold, might all worship it, as they needed its heat. As for a king, they said they had one sprung from a family of their own land, and that they did not want a stranger, even if he was a child of the sun, for they had no need either of the sun or of his children.”²

After a delightful drive through a most interesting country we arrived at Urcos, where we purposed taking luncheon.

Scarcely had we reached the town when our attention was arrested by unusual sounds in our immediate vicinity. Presently a procession of boisterous men and boys defiled from a side street and came directly towards us.

“The men with kettle drums entered the gate,
Dub-rub-a-dub, dub—the trumpeters followed,
Tantara, tantara—then all the boys hollo’d.”

There was a *fiesta*—feast day—in the place and everyone, young and old, was bent on having a pleasant time,

¹ *Cuzco and Lima*, p. 118, London, 1855.

² Garcilaso de la Vega, *Commentarios Reales*, Lib. VI, Cap. XVII.

with the usual accompaniments of music, singing and dancing.

While we were looking for a place where we might get something to eat—there was no hotel or restaurant visible—a little Indian boy came running up to me to inform me that luncheon was awaiting us in a house that we had just passed. He had evidently been on the lookout for us, and as soon as we stopped, he made haste to deliver his message. He then conducted us to the home of his mother, who kept a modest but neat little inn, and there to our great surprise, we found a splendid repast ready on the table.

“I thought,” said the good woman, “that you would wish to proceed to Cuzco without delay, so I deemed it best to have luncheon served for you immediately on your arrival.” “But how did you know we were coming?” I inquired. “Oh!” she answered, “Mr. Mc—— telegraphed from Checacupe this morning that you would be here, and requested me to have a good luncheon in readiness for you as soon as you came.”

That explained it. Good Mr. Mc—— had not forgotten us after we left his hospitable roof, but with the most thoughtful kindness, was looking out for our welfare even while we were *en route*. Like his friends and associates in Lima, Arequipa, Puno and elsewhere in Peru, his pleasure seemed to be centered for the time being in the comfort and pleasure of his guest.

Although our stay in Urcos was very brief, it was long enough to give us a view of the only object of interest in the place. This is the celebrated lake—apparently the crater of a long-extinct volcano—about which so many legends have been woven. One of these is that the Indians threw much of the treasure of Cuzco into this lake when they learned that the Spaniards were approaching. Among other things was the colossal chain of gold which Huayna Capac had ordered to be made to commemorate the birth of his son, Huascar. According to Garcilaso,

this chain was long enough to encircle the great square of Cuzco, which was four hundred feet long and three hundred feet wide.¹

Zarate, referring to this famous chain, writes as follows:—"When his son was born, Guaynacava"—Huayna Capac—"ordered a cable of gold to be made, so thick, according to the accounts of many Indians now living, that two hundred Orejones who held it, were scarcely able to raise it. In memory of this famous jewel, they called that son Huasca, which in their language means a chain."² "This chain," writes Cieza de Leon, "was of such size that it weighed according to what the Indians assert for a certainty, more than four thousand hundredweights of gold."³

Small wonder is it that efforts were made shortly after the conquest to secure this vast treasure. As early as 1557, Garcilaso tells us, a company of twelve or thirteen Spaniards, inhabitants of Cuzco, was formed to drain the lake and get possession of the chain and other objects of great value reputed to be at its bottom. They actually dug a tunnel a hundred feet in length, but they were prevented from going further by a hard rock of flint, not, however, until after they had spent many ducats of their wealth.

Other attempts since that time have been made to secure the coveted prize, but without result. If some of our treasure-seekers from the United States were to go to Urcos properly equipped with diamond drills and high explosives, it would not be difficult to empty the waters of the lake into the adjoining river Yucay, but even if this were done, would they find anything to reward them for their trouble? *Quien sabe?*

The stretch of territory between Checacupe and Cuzco is

¹ Op. cit., Lib. IX, Chap. I.

² *Historia del Descubrimiento y Conquista de la Provincia del Peru y de las Guerras con las cosas naturales que señaladamente, allí se hallan, y los sucesos que ha habido*, por Augustin de Carate, Lib. I, Cap. XI, Anvers, 1550.

³ Op. cit.

probably the most densely populated part of the tableland of Peru, as it is certainly the most interesting to the historian, the archæologist and the lover of wild nature. One always has within view deep ravines, impetuous rivers, lofty and picturesque mountains. At every turn there are Inca monuments of some kind or other. Here are the remains of bridges or old forts; there of tambos and sanctuaries, while in another place are the scattered ruins of what was once a flourishing town or of a favorite resort of the Children of the Sun.

All along the road one meets groups of men and women in their peculiar attire, which, although bizarre in the extreme, and almost as remarkable for its extraordinary combination of colors as is the dress of the Aymaras of La Paz, seems to become them, especially the women, as much as do their picturesque garments become the peasants of the Sabine hills. They gather from their aerie-like homes in the mountain in a way that bewilders one. How they can travel up and down the narrow, precipitous paths, which lead to towns and villages thousands of feet above the Vilcamayu,¹ not to speak of how it is possible for them to live in such chilly, desolate altitudes, is a mys-

¹ Speaking of the Hacienda of Antisana, 13,306 feet high, near Quito, Humboldt declares it to be "without doubt one of the highest inhabited spots on the earth." In the highlands of Peru there are not only haciendas but towns and villages that are several thousand feet higher than this place, especially near the headwaters of the Rio Azangaro and of the tributaries of the Vilcamayo. One of the largest and most interesting of these towns is Yanaoca, which is a thousand feet above the Hacienda of Antisana and more than six thousand feet above the Great St. Bernard. It is large enough to have two churches and a market, that on feast days is frequented by all the villagers for leagues around. It is especially interesting from the fact that the Inca Indians living here, having little or no contact with the Spaniards, have retained their primitive manners and customs and the original purity of their language.

Even the city of Potosi in Bolivia, that formerly bore the proud title of *Villa Imperial* and was at one time the largest city in the New World, has a higher altitude than the Hacienda de Antisana of which Humboldt speaks. Keane, in his *Compendium of Geography and Travel*, says it is "absolutely the highest abode of man in the southern continent." This, however, is untrue, as the above-mentioned Peruvian towns are higher.

tery. They nearly always travel afoot. Only rarely will one be seen mounted on a burro or a *mula*.

Frequently, too, one meets with processions of the ever-graceful, inquisitive, coquettish llamas, the heads of whose leaders, especially on feast days, are gayly decorated with bright-colored ribbons. Unlike mules and cattle, they will not crowd a horseman on a narrow road, but always get out of the way even when they may be exposing themselves to danger by so doing. Sometimes they will take fright and then they will scamper back over the road whence they came with the fleetness of a gazelle.

We had a very amusing case of this kind on our way to Cuzco. We were passing along a section of road cut into the mountain side, above a deep and precipitous ravine called *Infiernillo*—little hell—when we encountered a drove of llamas in charge of a goodly number of Indians. The Indians scrambled up the bank to the right while most of the llamas managed to find standing room on the declivity to our left, nearer the tumultuous river below. One young llama, however, finding itself slipping down towards the roaring torrent beneath, got thoroughly frightened, and after extricating itself from its dangerous position, started back homewards with the swiftness of the wind. His owner, a fine athletic young fellow, immediately followed in pursuit, and then we had a splendid illustration of the speed and endurance of which the Quichua runner is capable. I had seen fleet runners in Egypt and Greece, but never did I meet anywhere one to compare with this nimble-footed son of the Andes. I was then quite prepared to believe the wonderful stories that the early chroniclers tell us regarding the great distances traversed by the Inca *chasquis*—couriers—in a short space of time, and to accept as true, Cieza de Leon's statement that "one of them can do more in a day than a mounted messenger could do in three."¹

When we reached San Jeronimo, a small town a few

¹ *The Second part of the Chronicle of Peru*, Chap. XXI.

miles south of Cuzco, we were courteously accosted by a young man who spoke perfect English. If our surprise in Urcos was great, when we learned that luncheon was prepared for us, it was now much greater.

"I am Sr. P——," said the young man, introducing himself, "and have just come from Cuzco to greet you and to put myself at your disposition during your sojourn in our city. I received a telegram this morning from Checacupe, from my good friend, Mr. Mc——, announcing your arrival and begging me to show you every attention possible. I need not tell you that it is a genuine pleasure for me to comply with his request, and I trust you will fully enjoy every hour of your stay in our midst. I am a son of Cuzco, and shall be glad to act as your cicerone to all points of interest in and around the old capital of the Incas."

It would be quite impossible to express our surprise and pleasure at the unexpected greeting of this charming Cuzqueño, and still more impossible to voice our feeling of gratitude for the more than kindly interest and courtesy of our princely host in Checacupe.

After our surprise at this agreeable meeting had partly subsided, one of my Yale friends asked Mr. P—— where he had become such a master of English. "I spent several years in the United States," he replied, "and made my studies in the University of Princeton. You see, I am something of an American myself. Can you wonder now that I am delighted to see you?"

"What an extraordinary meeting!" another of our party remarked. "Here in this far-off land of the Children of the Sun, four graduates, hitherto unknown to one another, of three American universities, come together in the most unexpected manner. Surely this must be a good omen. What does it portend?"

"That," someone answered, "we are, for one thing, to see Cuzco under the most favorable auspices."

And such was the case, as the sequel proved. .

CHAPTER XIII

THE ROME OF SOUTH AMERICA

The illustrious Peruvian historian, Garcilaso de la Vega, descended through his mother, the ñusta Chimpa Ocllo,¹ from the blood royal of the Incas, describing his native city, Cuzco, writes as follows: "Cuzco, with regard to the Inca empire, was another Rome, and the one city may well be compared with the other, as they resemble each other in several things. The first and principal resemblance is that both were founded by their first kings. The second is that both obliged many and divers nations to submit to their sway. The third is the numerous good and excellent laws that were promulgated from both for the public good. The fourth is the number of great and excellent men they produced and formed by their good civil and military institutions. In these things Rome had the advantage over Cuzco, not in having more great men, but in having educated them to more purpose through the invention of letters, by which also their deeds were immortalized, and through which they became not less illustrious for arts than excellent in the use of arms, the one rivaling the other; the one achieving deeds in peace and war, the other writing of their achievements for the honor of their country, and for a perpetual memorial of their deeds."²

¹ Her father was Hualpa Tupac, a brother of Inca Huayna Capac, and a son of Tupac Inca Yupanqui, two of the most distinguished of the distinguished line of Inca rulers.

² *Commentarios Reales*, Lib. VII, Cap. VIII.

Bolívar's accomplished secretary, Col. D. F. O'Leary, who visited Cuzco during the War of Independence, likewise compares the capital of the Incas to that of the Cæsars. "Cuzco," he writes, "interests me highly. Its history,

If the learned and patriotic historiographer of the Incas could return to his birthplace to-day, he would find still other resemblances between the City of the Sun and the Capital of the Seven Hills, founded by Romulus. For, as on the Tiber we find a legendary Rome, a Rome of the Kings, a Rome of the republic, a Rome of the Cæsars, and a Rome of the Popes, so likewise on the Huatanay we find a pre-Incaic, cyclopean Cuzco, a Cuzco of the Incas, a Cuzco of the Spaniards, and a Cuzco of the Peruvian republic. And in Cuzco, as in Rome, it is these peculiar characteristics of the different epochs, so clearly marked that they are at once recognizable, that give to the old Inca capital the peculiar cachet of a city eternal.

For years after the conquest, Cuzco was the superior of Lima, and even during the later colonial period the capital of the Incas was the acknowledged rival of the capital of the viceroys. Notaries were required, under severe penalties, to write at the head of all public documents, "*En la gran ciudad, del Cuzco, cabeza de estos reinos y provincias del Peru en las Indias*"—"In the great city of Cuzco, head of these Kingdoms and provinces of Peru in the Indies."¹ Even so late as the seventeenth and eighteenth centuries it was, next to Lima, the city of the greatest social importance in the viceroyalty. And here, too, were the same ambitions for social distinction and political preferment as in Lima, and the same petty jealousies and disputes between the civil and the ecclesiastical officials about rights and privileges and precedence at public functions.

its fables, its ruins are enchanting. This city may, with truth, be called the Rome of America. The immense fortress on the north is the capitol. The temple of the sun is its Coliseum, Manco Capac was its Romulus, Viracocha its Augustus, Huascar its Pompey, and Atahualpa its Cæsar. The Pizarros, Almagros, Valdivias and Toledos are the Huns, Goths and Christians who have destroyed it. Tupac Amaru is its Belisarius, who gave it a day of hope. Pumacagua is its Rienzi and last patriot." *General Miller's Memoirs*, Vol. II, p. 194, London, 1828.

¹ *Apuntes Historicos del Peru y Noticias Cronologicas del Cuzco*, p. 183, por Manuel de Mendiburu, Lima, 1902, and *Anales del Cuzco 1600-1750*, Lima, 1901.

The largest and most imposing structure of modern Cuzco is the Cathedral of the Assumption. It was ninety years in building and was considered by the people of Cuzco the most beautiful church in the world. It occupies the site of the palace of Viracocha, the eighth Inca, and the *galpon*, or great hall in which the Spaniards had their barracks, when they took possession of the city. So well constructed is it and so thick are its walls that it withstood the destructive earthquake of 1650, which caused such havoc in other parts of the city. The erection of the cathedral was authorized by a bull of Paul III in 1536. Its first bishop was the Dominican Fray Vicente Valverde, the noted chaplain of Francisco Pizarro,¹ whose diocese embraced the whole of Peru and the provinces of Quito and Chile as well.

The cathedral is indeed a splendid structure and in the western hemisphere is surpassed only by the noble cathedrals of Lima and the city of Mexico. It is particularly remarkable for its sculptures in wood, which ornament the interior, the work of Indian artists in which they exhibited wonderful talent and skill. At the time of my visit the interior of the building was being renovated at great expense, and, when the work shall be completed, the good people of Cuzco will, I doubt not, declare, as did their predecessors long ago, that their cathedral is the most beautiful in the world. So far as the interior is concerned, it will certainly be one of the most beautiful.

Among the other beautiful churches are *La Compañia* and *La Merced*. In this latter church are the remains

¹ There are many conflicting reports about the death of this noted ecclesiastic. According to Mendiburu he died a natural death, presumably in Cuzco, after governing his diocese three and a half years. Others say that he was put to death by the Indians of the island of Puno in the gulf of Guayaquil, while he was trying to evangelize them. At the end of the Dominican martyrology, among those who are *Vitæ sanctitate insignes* commemoration is made of *Frater Vincentius Valverdius, Episcopus Cuzconsis in Provincia Peruana ab Indis interfectus*.

of Almagro and of Juan and Gonsalvo Pizarro, the half-brothers of the conqueror of Peru.

Of special interest to every visitor is the Church of San Domingo, which occupies the site of the famous temple of the Sun. Indeed, parts of the walls and foundation of the old Inca structure enter into the construction of the Christian place of worship. It stands in the lower part of the city, in the section known as *Curicancha*, or Place of Gold. If but a tithe of what the old chroniclers tell us of the riches and splendor of the temple of the Sun be true, it deserved to be classed among the world's greatest wonders. Cieza de Leon declares that he had seen only two buildings in Spain in which the masonry was comparable with that in this edifice, which he avers "was one of the richest temples in the world."

"All the four walls of the temple," writes Garcilaso, "were covered from roof to floor with plates and slabs of gold. In the side, where we should place the altar, they placed a figure of the Sun, made of a plate of gold of a thickness double that of the other plates which covered the walls. The figure was made with a circular face and rays of fire issuing from it, all of one piece, just as the sun is represented by painters. It was so large as to occupy one side of the temple from one wall to the other.¹

¹ After the Spaniards entered Cuzco, this figure of the Sun, it has hitherto been supposed, fell to the lot of a noble Knight, named Mancio Suerra de Leguisamo, who gambled it away in a single night. This is the origin of the saying, *Juega el sol antes que amanezca*—He plays away the sun before dawn. According, however, to Lizarraga, *op. cit.*, p. 348, the image of the sun in question was not the great one on the wall of the temple, but a smaller one graven on a golden plate, which covered a stone receptacle into which offerings of chicha were poured at the festival of Raymi. The large image was never found, for it was concealed with other treasures of the Incas before the arrival of the Spaniards in Cuzco. It is due, however, to the memory of this great gamester—*gran jugador*—as Lizarraga calls him, to state that although he lived many years after this event and held important offices in the municipality of Cuzco, he never touched a card again. He is the same conquistador mentioned in chapter X in connection with the honesty of the Indians before the arrival of Europeans.

In comparing the Inca with the Roman capital, Garcilaso might have added that Cuzco resembled Rome in the richness and magnitude of its temples and palaces, and in the untold treasures of gold and silver which flowed into it from all parts of Tahuantin-suyo. So enormous was the amount of these two metals in Cuzco, before the arrival of the Spaniards, that it seems incredible. For this reason many modern writers are disposed to regard the accounts of the early Spanish historians dealing with this subject as greatly exaggerated.

I have briefly referred to the riches of the temple of the Sun. Gomara writes as follows of the riches of the palaces of the Incas: "All the service of their house, table and kitchen, was of gold and silver, or at least of silver and copper. The Inca had in his chamber hollow statues of gold which appeared like giants, and others naturally imitated from animals, birds and trees; from plants produced by the land, and from such fish as are yielded by the waters of the Kingdom. He also had ropes, baskets and hampers of gold and silver, and piles of golden sticks to imitate fuel prepared for burning. In short, there was nothing that his territory produced that he had not got imitated in gold."¹

Cieza de Leon, describing the magnificence of one of the solemn harvest festivals celebrated in the plaza of the capital, declares: "We hold it to be very certain that neither in Jerusalem, nor in Rome nor in Persia, nor in any other part of the world, by any state or king of this earth, was such wealth of gold and silver and precious stones collected together as in this square of Cuzco when this festival and others like it were celebrated."²

Garcilaso, Zarate and other early historians expressed themselves in the same strain. In his latter years, when residing in Spain, Garcilaso seemed to realize that the accounts that had been published regarding the vast riches

¹ *Historia General de las Indias*, Cap. CXX.

² *The Second Part of the Chronicle of Peru*, Chap. XXX.

of Cuzco savored of Oriental tales, and wrote as follows: "This is not hard for those to believe who have since seen so much gold and silver arrive here from that land. In the year 1595 alone, within the space of eight months, thirty-five millions of gold and silver crossed the bar of San Lucar in three cargoes."¹

Making due allowance for exaggeration on the part of the early chroniclers regarding the treasures of gold and silver possessed by the Incas, and basing our deductions on indisputable facts, there can be no doubt that the wealth amassed in Cuzco was enormous. For generations, probably for centuries, a constant stream of the precious metals flowed into the capital from every part of the empire where it could be found. They were so highly valued that they were exacted as tributes from those who lived in mineral-bearing districts. Besides this, the mere fact that the Incas desired these metals for their personal adornment, or for beautifying and enriching the palaces and temples of Cuzco, was sufficient reason to prompt every loyal subject in the empire to gratify his ruler's desire and to contribute towards the splendor of the ceremonies connected with the worship of the Sun.

But this was not all. "To add to the grandeur of their capital, a law was made that neither gold nor silver, that once entered Cuzco, should ever leave it again, on pain of death to be inflicted on the transgressor. Owing to this law, the quantity that entered being great, while none went out, there was such store that if, when the Spaniards entered, they had not committed other tricks and had not so soon executed their cruelty in putting Atahualpa to death, I know not how many ships would have been required to bring such treasure to Spain as is now lost in the bowels of the earth, and will remain so, because those who buried it are now dead."²

None of this treasure was drawn on in time of war, for the "provinces supplied all the men, arms and provisions

¹ Op. cit., Lib. VI, Cap. II.

² Cieza de Leon, ut. sup., pp. 40, 41.

that were necessary." For this reason Cieza continues: "I am not therefore astonished at these things, nor even if the whole city of Cuzco and its temples had been built of pure gold. That which brings necessity upon princes and prevents them from accumulating riches is war. We have a clear example of this in the expenditure of the Emperor, from the year in which he was crowned to the present time. For, having received more silver and gold than the kings of Spain ever had, from the King Don Rodrigo to himself, none of them were in such necessity as his Majesty. Yet, if he had no wars, and his residence was in Spain, in truth, what with his dues and with the treasure from the Indies, all Spain would be as full of riches as Peru was in the time of its kings."¹

The accomplished soldier-annalist may, occasionally, have overestimated the wealth of the Incas; but the amount of treasure collected for Atahualpa's ransom, not to speak of what has been found since in the *huacas* of the Great Chimu and elsewhere, proves conclusively that it was truly colossal. There is, however, good reason to believe that the treasure secured by the invaders was but a small fraction of the original amount, for the Indians, we are informed, buried most of their treasures "as soon as they saw how the Spaniards thirsted for them," not wishing that things, "which had been dedicated to the services of their kings, should ever be used by others." The Indians, according to Cieza, declared that the tens of millions secured by the Spaniards were, in comparison with that which was concealed, but as "a drop taken out of a great vase of water."

It would be idle to speculate on the probable value of the precious metals collected in Cuzco, when the Spanish brigantines first touched the shores of Peru; but after making reasonable reductions in the estimates of early chroniclers, one would seem warranted in concluding that the wealth of gold and silver then gathered in its temples

¹ Ibid.

and palaces equaled, if it did not surpass, the sum total in the Roman treasury in the palmiest days of the empire of the Cæsars.

About a block from the spot occupied by the temple of the Sun are the remains of the palace of the Virgins of the Sun. This building was originally about eight hundred feet long and two hundred feet wide, and was, in the time of the Incas, occupied by virgins of royal lineage. This edifice did not possess the rich adornment of the temple of the Sun, nor the delicate finish of the temple of the Roman vestals, but it did exhibit, as its ruins to-day attest, all the vast strength of those imposing structures which were once the glories of Thebes and Memphis. Parts of the walls are still in a splendid state of preservation, and are not only the most conspicuous remains of ancient Cuzco, but they are among the best existing illustrations of the style of work that characterized Inca architecture. The stones are massive and the joints are so perfect that, as has well been observed, "if the faces of the stones were dressed down smooth they could hardly be discerned."

This former home of the Virgins of the Sun, so venerated in the time of the Incas, is now the convent of the religious of Santa Catalina, whose virtues and good works have won for them the admiration of all who know them.

Among objects of minor importance, but of special interest to the visitor and the lover of antiquities, are the houses occupied by some of the most distinguished of the conquistadores. The haughty cavaliers "soon established themselves in the Imperial palaces, built on them second stories with broad trellised balconies, and carved their armorial bearings over lintels and gateways." In consequence of these changes, the old Inca capital soon assumed the Moorish aspect of Granada or Cordova, a feature it still retains.

Not the least interesting edifice is the home of Garcilaso de la Vega, to which every student of history is sure to

make a pilgrimage. Then there is the remarkable pulpit in the Church of San Blas. It is ten feet in diameter and thirty feet high and is constructed of wood carved in the most artistic manner imaginable. So delicate, indeed, is the workmanship, even in the minutest details, that it might well be called wooden filagree. There are several hundred figures and heads of saints and angels in this admirable piece of work, and each one is a masterpiece of the woodcarver's art. I do not think there is any similar work in Belgium—so celebrated for its artistic productions in wood—that surpasses it, and few, if any, pulpits that equal it for beauty of design and perfection of finish. The old Inca gold and silversmiths were justly celebrated for their skill in working in the precious metals, but this admirable pulpit of San Blas shows that the artificers in wood were not inferior in point of skill, to the craftsmen in gold. An Englishman, some years ago, offered fifty thousand soles for this superb work of art, but his offer was declined. I am sure if our munificent and enthusiastic Mæcenæ of art, Mr. J. P. Morgan, were to see this really unique masterpiece, he would not rest until he counted it among the other treasures that have made his collections so famous.

Cuzco, as Rome, is a composite city. It is made up of ancient monuments and modern structures, or of buildings which are a combination of the old and the new.

Many of the private dwellings of Cuzco, as has been stated, are built on the foundations of the old Inca palaces. In some cases a greater part of the walls of the older edifices are retained. Some of these walls, as those, for instance, of the palace of the Inca Rocca, are cyclopean in character, and many of the polygonal stones here seen weigh several tons. One of them is *La piedra famosa de doce angulos*—the famous stone of twelve corners—which attracts as much attention to-day as it did at the time of the conquest. In other cases the stones are rectangular blocks of various sizes laid in regular courses but fitted so

accurately that the statement of the old chroniclers that it is impossible to introduce the thinnest knife blade or finest needle between them, is literally true. Squier is right when he declares that "The world has nothing to show in the way of stone cutting to surpass the skill and accuracy displayed in the Inca structures of Cuzco. All modern work of the kind there—and there are some fine examples of skill—looks rude and barbarous in comparison."¹

The wonders, however, of the old capital of the Incas are not confined to its temples and palaces. Equally marvelous and deserving of attention is the stupendous fortress, or citadel, of Sacsahuaman, which overtowers it on the north. It is on a bold headland, or mountain spur, whose summit is nearly eight hundred feet above the main plaza of the city.

Almost midway up the precipitous sides of this hill, near the Church of San Cristobal, are the reputed remains of the palace of Manco Capac, the founder of Cuzco, which are now the property of an Italian merchant.

The conquistadores justly classed the citadel of Sacsahuaman as the eighth wonder of the world. By some it was considered even superior to any of the seven wonders of antiquity. And so great are the stones composing its walls—one of them weighing nearly four hundred tons—that it was thought impossible to place them in the position they now occupy without the aid of the devil.²

For a description of this extraordinary fortress I must refer the reader to Garcilaso and Cieza,³ who have given

¹ Op. cit., p. 435.

² "Thus it is," writes Garcilaso, "that the work is put down to enchantment, due to the great familiarity these people had with devils." Op. cit., Lib. VII, Cap. XXVIII.

³ Among modern writers who have written about Cuzco and its monuments the most reliable are Squier, Markham, and Middendorf. Regarding such works as Paul Marcoy's *Voyage à Travers L'Amérique de Sud*, one can say with the noted traveler and geographer Professor Antonio Raimondi, that they "should be looked upon as the product of a vivid imagination rather than truthful composition." "It is to be lamented that so able a writer, and one who has had the opportunity of visiting unexplored regions, has em-

a detailed account of it. I may state, however, that it is about twelve hundred feet in length by about seven hundred in breadth. The headland on which it stands is a metamorphic rock of complex composition. The walls, three in number—not two, as Prescott states—that constitute the defenses on the north side, are nearly a third of a mile in length and are, for the most part, composed of a cherty limestone, which was obtained from quarries about three-quarters of a mile away and not, as Garcilaso asserts, from beyond the Yucay, fifteen leagues distant.

It is not surprising that the early chroniclers regarded the fortress as the work of demons, for portions of it, as Garcilaso phrases it, are “composed of rocks rather than stones.” Some of the stones are from fourteen to fifteen feet high and ten to twelve broad and of great thickness—far larger than any found in any of the Pelasgic remains of Italy or Greece. And the joints, while not so perfect as they are represented to be by the old chroniclers, are nevertheless, in spite of earthquakes and the long-continued action of the elements, equal, if not superior, to any seen in our modern fortifications.

But more wonderful than the huge rocks found in the fortress is the military skill exhibited in the construction of the walls and in the employment of salients that would do credit to a Vauban. Fergusson, in his masterly work on architecture, expresses himself on this feature of Sacahuaman as follows:

The stones “are arranged with a degree of skill nowhere else to be met with in any work of fortification anterior to the invention of gunpowder. To use a modern term, it is a fortification *en tenaille*; the reëntering angles are generally the right angles, so contrived that every part is

ployed his talents in a work of such a class as his *Scènes et Paysages dans les Andes*, deviating so much from the truth, when he could by faithfully describing countries so new as Peru, have interested the reader much more than by fantastic stories.” *Journal of the Royal Geographical Society of London*, Vol. XXXVII, p. 118.

seen, and as perfectly flanked as is the best European fortifications of the present day.

“It is not a little singular that this perfection should have been reached by a rude people in Southern America, while it escaped the Greeks and Romans and the mediæval engineers. The true method of its attainment was never discovered in Europe, until it was forced on the attention of military men by the discovery of gunpowder. Here it is used by a people who never had—so far as we know—an external war, but who, nevertheless, have designed the most perfectly planned fortress ever known.”¹

The citadel of Sacsahuaman, according to the majority of the early Spanish chroniclers, was the result of the combined efforts of the Incas Yupanqui, Huayna Capac and Huascar, the last three Incas who ruled before the advent of the Spaniards. It was fifty years in building, and twenty—some say thirty thousand—Indians were employed in the gigantic undertaking. How the builders of this colossal structure were able to transport such immense masses of stone and place them in position, or how they were able to dress and fit them with such marvelous precision, with the primitive tools at their command, I shall not inquire. They had no draught animals, no machinery that we know of, and had no knowledge of iron or steel. And yet, notwithstanding all this, they were able to construct “one of the most imposing monuments in America or in the world”—a monument that, as an exhibition of engineering skill and daring, can take rank with the pyramids of Gizeh, and which, humanly speaking, will endure as long as the mammoth creation of Cheops.

Garcilaso complained that the conquistadores dismantled the citadel “to build the private houses they now have in Cuzco. In order to save the cost, delay and trouble which the Indians expend on preparing dressed stones for building, the Spaniards pulled down all the ma-

¹ *History of Architecture in All Countries*, Vol. II, pp. 780, 781, London, 1867.

sonry walls within the circle of the fortress, and there is not a house in the city which has not been partly built with those stones, at least among those that the Spaniards have erected." ¹ Sacsahuaman was thus to Cuzco what the Coliseum was to Rome—the quarry whence to draw building material for edifices of a later age.

Notwithstanding the opinion of Spanish chroniclers and of those who have followed them that Sacsahuaman is due entirely to the Incas, recent research seems to demonstrate that certain parts of the fortress, especially the cyclopean sections of the walls, belong to a much earlier date. The natives living near the southern shore of Lake Titicaca, Garcilaso informs us, declared that the edifices of Tiahuanco "were built before the time of the Incas, and that the Incas built the fortress of Cuzco in imitation of them." ²

Whether this be true or not, it is incredible that the extraordinary monuments found throughout the length and breadth of the Peruvian empire could have been the work of the thirteen Incas, from Manco Capac to Huascar inclusive. It is still more incredible that a people sunk in the lowest depths of savagery could, in a few centuries, have made such progress towards civilization as did the Children of the Sun. To have developed architecture to such a degree of perfection as is evinced in the ruins of Tiahuanaco and Cuzco and Pisac and Ollantaytambo; to have achieved so much in agriculture, irrigation, the domestic arts and legislation, is conclusive evidence of a much longer cultural period than that of the Inca dynasty as described by Garcilaso and his school. It is more likely that there were several cultural periods and several dynasties long anterior to that founded by Manco Capac.

According to Montesinos, the ancestors of the Peruvians came to South America thousands of years before the first of the Incas set out to teach the savage tribes, among whom he appeared, the arts of civilized life. But, until recently,

¹ Op. cit., Lib. VII, Cap. XXIX. ² Op. cit., Lib. III, Cap. I.

this writer has been regarded with suspicion, and his long list of a hundred and one rulers from Ophir, the grandson of the patriarch Noah, to Huascar, has been treated as a figment of the imagination. He is now, however, considered by scholars with more favor, and, while few are prepared to give full credence to his history of Peru, as traced out in his *Memorias Antiguas*, all recognize the utter inadequacy of Garcilaso's story of the Incas to account for the advanced social, political and economic status of the Peruvians at the time of the conquest.¹

If Montesinos demands too much time for the evolution of Peruvian civilization, Garcilaso certainly allows too little. To suppose that the culture, the religion, the military and social organization of Peru, at the time of Huayna Capec, was the result of three or four centuries of Inca rule, would be to suppose what has never once occurred in any other part of the world. It would be tantamount to admitting that Charlemagne was the creator of modern civilization, independently of what had been accomplished ages before by Rome, Greece, Egypt, Judea and Assyria. It would be equivalent to asserting that the people of ancient Peru were incomparably more highly endowed than the Greek or the Italian or the Hindu. For the development of a perfect and harmonious language like the Quichua, which is still spoken from Santiago del Estero to Quito, and from the Pacific to the Ucayali;²

¹ Sr. Vicente F. Lopez, in his learned works, *Les Races Aryennes du Perou*, p. 412, after referring to "the fictitious and conventional genealogy of the Incas," as given by Garcilaso and other historians of the stamp of Rollin, who set more store by pet theories than popular legends and traditions, speaks of Montesinos as an exact and well-informed chronicler—"Un chroniqueur exact et bien informé." This is quite different from the opinion of Prescott, who declares that the painstaking author of the *Memorias* and the *Anales* is an "indifferent authority for anything."

² Quichua is still spoken by more than two million people, and corresponds, in a measure, to the Tupi-Guarani—*lingua geral*—which is spoken in Brazil, Paraguay and a part of Argentina. According to the *Vocabulario Poliglota Incaico*, p. V, Lima, 1905, published by the Franciscan missionaries of the colleges of Propaganda Fide of Peru, "four-fifths of the inhabitants of Peru

and the evolution of music and poetry, like that which obtained wherever Quichua was spoken; and the creation of a system of civil and military administration, like that of the Incas, would, in the Old World, have required not three or four centuries, as Garcilaso would have us believe, but a period of time more nearly approaching three or four thousand years. To contend that less time would have been needed in the New World, where conditions were less favorable than in the Old, is to go counter to all the teachings of history and archæology, and make claims that cannot be substantiated by what we know of the progress of our race in other parts of the world.¹

Garcilaso, in his description of the imperial city of

speak the Quichua language, and of these only a relatively small fraction speak Spanish also, while very many do not even understand it."

¹ Markham, after discussing the list of Kings of the Pirua and Amauta dynasties given by Montesinos, concludes: "It may be that the Pirua and Amauta dynasties may possibly represent the sovereigns of the megalithic empire. Its decline and fall were followed by centuries of barbarism, so that the people had almost forgotten its existence, while the tribes of the Callao were probably of another race, descendants of the invaders. As the Bible and the literature and art of Greece and Rome were preserved through centuries of barbarism by the monasteries, so the religion and civilization of the megalithic empire were preserved through centuries of barbarism by the Amautas of Tampu-tocco. In one case the dark period was succeeded by the age of the Renaissance, in the other by the enlightened rule of the Incas." *The Incas of Peru*, pp. 46-47. Cf. also, *El Peru Antiguo y los Modernos Sociologos*, Lima, 1908, by Victor Andres Belaunde, who holds that "The Incas systematized tribal and social organizations which had existed from remote antiquity, and did not create them," and the German sociologist Cunow, who, in his *Organization of the Empire of the Incas*, contends that there existed in Peru from the earliest times "separate groups—ayllus—organized on the same base as the village communities of India and the German mark," and that the communism of the Children of the Sun was not a system conceived by the Incas and brought into practice by means of conquests and clever alliances. "Similar views are held by the Belgian sociologist, William de Greef, by the distinguished Peruvian writer, Don José de la Riva Agüero, and by Don Bautista Saavedra, a Bolivian. Belaunde is, therefore, right in declaring that "this hypothesis has caused a complete revolution in the manner of considering the rule of the Incas," and shows the necessity of revising the conclusions of Robertson, Prescott and other writers on Peruvian civilization, who have assumed that "the whole fabric was originated and matured by the Incas, and constructed, as it were, out of chaos."

Cuzco, writes: "It was the misfortune of my country that, although it produced sons who were distinguished as warriors, and others who were learned and able in studying the arts of peace; yet, owing to the want of letters, no memorial was preserved of their noble deeds and memorable sayings."¹

This statement of the Inca historian long remained unquestioned. It was averred that the only means the Peruvian *amautas*—wise men—had of preserving traditions, was certain knotted cords—*quipus*—which, to say the least, were most inefficient instruments for recording and transmitting knowledge. Sarmiento, however, tells us positively that the annals of the Inca empire "were painted on great boards and deposited in the temple of the Sun, in a great hall. There such boards adorned with gold, were kept as in our libraries, and learned persons were appointed who were well versed in the art of understanding and declaring their contents. No one was allowed to enter where these boards were kept, except the Inca and the historians, without a special order from the Inca."²

From the vague information we have about these annals, they were preserved in a kind of picture writing not unlike that which obtained among the Aztecs. If, however, we are to credit Montesinos, alphabetic characters were employed as early as the reign of the third Pyrhua, Huayna Cavi. The *amautas* taught reading and writing and used dried plantain leaves in lieu of paper.³

The use of letters continued until the time of Pacha-

¹ Op. cit., Lib. VII, Cap. VIII.

² *History of the Incas*, p. 42, trans. by Clements R. Markham, and printed for the Hakluyt Society, Cambridge, 1907. Molina, op. cit., p. 4, also informs us that "They had the life of each one of the Incas, with the lands they conquered, painted with figures on certain boards, and also their origin."

³ "Cuando este principe reinaba, habia letras y hombres doctos en ellas, que llaman *amautas*, y estos enseñaban á leer y escribir; la principal ciencia era la astrologia; á lo que he podido alcanzar, escribian en hoyas de platanos; secabanlas y luego escribian en ellas," *Memorias Antiguas Historiales y Politicas del Peru*, p. 23, por el Licenciado D. Fernando Montesinos, edited by M. Jimenez de la Espada, Madrid, 1882.

cuti VI, who reigned three thousand years after the Deluge, when there ensued for Peru a period corresponding to the Dark Ages in Europe, when science and letters underwent a temporary eclipse. Five hundred years later, the same writer tells us, Tupac Cauri, the seventy-eighth ruler, proscribed the use of paper and alphabetical characters in writing and, under penalty of death, replaced them by the *quipus*.¹

The statements of Montesinos, Monlina and similar confirmatory evidence that might be adduced, seem to indicate that, contrary to the generally received opinion, the predecessors of the Incas had a written language, and that the Incas themselves had likewise a written language, or something that was very nearly its equivalent.²

But, be this as it may, it is certain that with or without a system of writing, the chronicles of the Incas were carefully kept and handed down from generation to generation. It is certain also that they had quite an extensive literature, most of which unfortunately has been lost or destroyed. The greater part of what remains is composed of songs, elegiac poems and a drama called *Ollantay*, which has appeared in many editions and has been translated into several languages. It has also been made the libretto of an opera which has met with a very favorable reception.

As a sample of the soft, rich and beautiful language of the Incas still spoken by a great part of the people of Peru, I subjoin a harvest song from the drama of *Ollantay*, which is still sung by the Indians when traveling or

¹ "Tupac Cauri, mandó por ley, que, so pena de la vida, ninguno tratase de quilcas, que eran pergaminos y ciertas hojas de arboles en que escribian, ni usasen de ninguna manera de letras. . . . Y asi, desde este tiempo, usaron de hilos y quipos." *Ibid.*, 86.

² As late as the eighteenth century, it is averred, some plantain-leaf manuscripts with hieroglyphs and other characters were found among the Panos Indians on the banks of the Ucayli. These, according to their owners, contained the history of their ancestors. May not these manuscripts have been carefully preserved remnants of some of the records to which Montesinos refers? And if so, may we not hope that other similar manuscripts may eventually be discovered by the explorer in Andean lands?

THE ROME OF SOUTH AMERICA

when collecting the harvest. It is addressed to a little finch called the *Tuya*, warning it against its ravages in the corn-fields. I have frequently heard it sung by the plaintive voices of the Quichuas in the uplands of Peru and each succeeding time with increased pleasure. It is as follows:

HARVEST SONG

From the drama of Ollantay.

- | | |
|---|--|
| "O bird, forbear to eat
The crops of my princess.
Do not thus rob
The maize which is her food.
Tuyallay, Tuyallay. | "Ama pisco micupchu
Nustallaipa chacranta
Manan hina tucueichu
Hillacunan saranta.
Tuyallay, Tuyallay. |
| "The fruit is white,
And the leaves are tender,
As yet they are delicate;
I fear your perching on them.
Tuyallay, Tuyallay. | "Panaccaymi rurumi
Ancha econi munispa
Nucmunacemi uccumi
Llullunacmi raphinpas.
Tuyallay, Tuyallay. |
| "Your wings shall be cut,
Your nails shall be torn,
And you shall be taken,
And closely encaged.
Tuyallay, Tuyallay. | "Phurantatac mascariy
Cuehusacemi silluta
Pupasecayquin ceantapas
Happiscayquin ceantapas.
Tuyallay, Tuyallay. |
| "This shall be done to you,
When you eat a grain;
This shall be done to you,
When a grain is lost.
Tuyallay, Tuyallay." | "Hinasecatan ricunqui
Huc rurunta chapchacstin
Hinac tacemi ricunqui
Hac llallapas chineacstin.
Tuyallay, Tuyallay." |

This little song, however, gives but a faint idea of the merits of the drama, taken as a whole. To be appreciated, it should be read as translated and commented by Tschudi or Markham or Zegarra, when, by reason of certain peculiarities of form, one will be reminded more than once of the lyrical dramas of Æschylus.

The very existence of such a work, so replete with tragic power and beauty of expression, is the best possible evidence of the literary ability of the *haravaecs*—poets—who graced the courts of the Incas. It shows with what success literature was cultivated by the Children of the Sun, and supports the statements made by Montesinos of the existence, at an early period, of a higher degree of civilization among the dynasty of the Peruvians than anything that ever obtained during the dynasty of the Incas, as we know it from the pages of Garcilaso de la Vega.

I call special attention to the language and literature of the Quichuas because I am convinced that neither the one nor the other has yet received the attention it deserves. The language has usually been classed with the hundred other polysynthetic tongues of South America, while both the literary remains and the literature have either been ignored or put on the same plane as the crude legends and folklore of the nomadic tribes of the Argentine pampas and the Amazonian forests.

Nothing could be wider from the truth, for if the agglutinative language of the Quichuas lacks the copious vocabulary of some of our inflectional tongues, it is not, therefore, devoid of richness and harmony and the capacity of expressing the most delicate shades of thought. For this reason, if for no other, it is deserving of more attention than it has received from philologists.

A careful study of Quichua and the closely allied tongues will, I feel sure, contribute much toward the solution of the long-discussed question regarding the origin of the ancient Peruvians, and will help materially toward establishing their connection with certain, as yet unknown, peoples of the Old World. No field of research in the Western Hemisphere promises more important results than the erstwhile empire of the Incas. What is practically a virgin soil waits the shovel and the pick of the investigator. A beginning, it is true, has been made by Tschudi, Rivero, Stübel, Uhle and others, but so far the ground has

been barely grazed. The works of Lopez and Pablon show what we may expect from a comparative study of Quichua, while the existence of the drama of Ollontay should be an incentive to a systematic search for other and similar works of a bygone age, which there is reason to believe are still in existence.

The treasures that are every year rewarding the labors of the zealous students in the lands of the Nile and the Euphrates, are an indication of what we may expect beneath the long-neglected ruins of the palaces and huacas of Tahuantin—suyu. Hitherto the excavations conducted among them have been mostly for buried treasures, and little thought has been given to the immense archæological value of the strange objects that have been brought to light.

In every part of Peru there are monuments covered with strange inscriptions awaiting the discovery of the key that shall enable the student to decipher their meaning. From the little that has already been accomplished, we are justified in hoping that the day is not far distant when their phonetic value shall be made known. Then, perhaps, we shall have the alphabet which Montesinos tells us was used by the Pyr—Huas, and then, too, shall we be in a fair way towards having something like a history of those early races that first peopled the lofty tablelands between the eastern and western Cordilleras.

The world had to wait four thousand years before the accidental finding of the Rosetta stone furnished Champollion with the key to the hieroglyphics in which was written the fascinating story of the Pharaohs. It had to wait an equally long time until a Rawlinston deciphered the curious inscription on the great rock of Beheston, and disclosed the meaning of those bizarre cuneiform characters which held within their mystic grasp the records of Nineveh and Babylon, and many ill-understood episodes in the history of the children of Israel. The Moabite stone, found near the Dead Sea a few decades ago, precious

papyri recently discovered in the Nile island of Elephantine, and above all the Hittite inscriptions on the Tel-el-Armana tablets found in Egypt, in 1887, establishing the existence of an empire which was before regarded as mythical, should demonstrate what patient and well-directed research will accomplish, and what great results are often obtained from the finding of apparently trivial objects.

One may not predict what treasures are awaiting the trained archæologist among the long-neglected monuments of Peru, but there can be no doubt that they will well repay him for all the time and labor that he may expend in securing them. If the land of the Incas could but interest the activities of an organization like the *Palestine Exploration Fund*, it is reasonably certain that results would soon be forthcoming that would surprise the most enthusiastic Americanist and delight the hearts of those few ardent explorers who have deserved so well of Peru and every lover of prehistoric lore. Thanks to the numerous and systematic explorations that have been made in the City of the Seven Hills, the late historian Mommsen knew more of the Rome of Romulus and Augustus than did Cicero or Livy. And it is not too much to hope that in the not distant future the historian of Peru will be able to tell us many things regarding the Incas and their predecessors about which the learned Inca Garcilaso never dreamed.

While engrossed with these and similar reflections suggested by the storied past of the Children of the Sun, and by the cyclopean walls whose massive monoliths challenged our admiration at every step, we were gradually wending our way towards the southern side of Sacsahuaman which overlooks the famous valley of Cuzco.

Here a truly magnificent picture greeted our enchanted gaze. At the foot of the sheer, precipitous mountain side was Cuzco, a city that was once to the subjects of the Incas what Mecca is to every true Mohammedan. It was to them, as its name implies, the navel of the world, as

was Delphi to the Greeks. It was to them what the Capital on the Tiber was to the Roman—*Urbs*—the city *par excellence*; what Jerusalem was to the Crusader, the city of the heart's desire. All who were brought under the dominion of the Incas "were taught," as Polo de Ondegardo informs us, "that Cuzco was the abode and home of the gods. Throughout that city there was not a fountain, nor a pathway, nor a wall which they did not say contained some mystery."¹ Nor was this all. Garcilaso assures us that "One of the principal idols of the kings Incas and their vassals was the imperial city of Cuzco, which the Indians worshipped as a sacred thing, both because it was founded by the first Inca, Manco Capac, and on account of the innumerable victories which have been won by its citizens. It was also venerated as the court and home of the Incas. This veneration was so great that it was shown in even very small things. For if two Indians of equal rank met each other in the road, one coming from and the other going to Cuzco, he who was coming from the city was accosted by the other as a superior, because he had been at Cuzco, and this respect was shown with more solemnity if the traveler was a resident, and still more if he was a native of the capital. The same feeling prevailed as regards seeds and pulses, or anything else. Whatever came from Cuzco, although in reality not superior, was preferred solely for that reason."²

And how beautiful it still is in spite of all the vicissitudes through which it has passed! Although the temple of the Sun and the house of the virgins consecrated to its service have long been stripped of their glories; although but little remains of the palaces of the Incas, except the foundation and an occasional wall, the picture of the city, as viewed from Sacsahuaman, is one of rarest loveliness. If the

¹ Que aquella ciudad de Cuzco era casa y morada de dioses, y casi no habia en toda ella fuente ni pozo ni pared que no dijese que tenia misterio. *Relacio*.

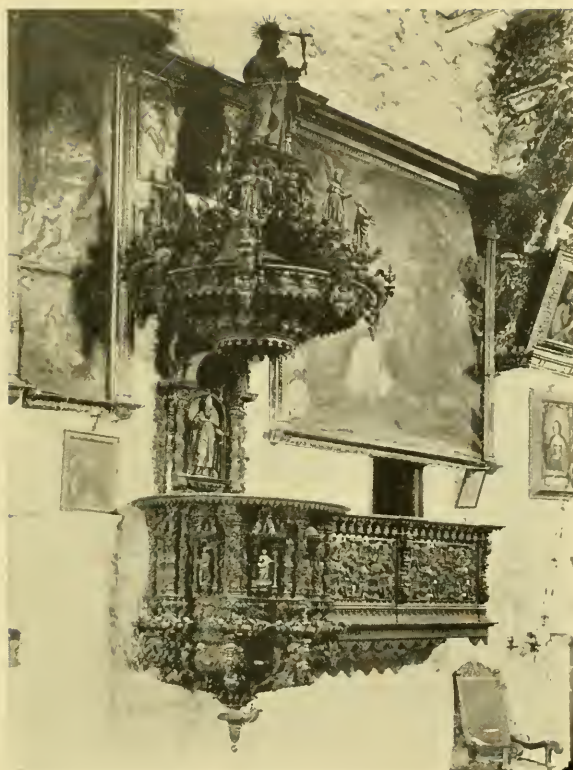
² Op. cit., Lib. III, Cap. IX.

stately edifices of the Incas are no more, there are, in their stead, some of the most ornate and imposing structures in the New World. There are the superb churches and impressive convents, testifying to the faith and the zeal of people who profess another faith and owe allegiance to another ruler.

Nowhere else, to my thinking, is there a city that presents a picture so charming and at the same time so imposing as Cuzco, as seen from the heights of its ruined citadel. Not Sparta, as seen from a crumbling watch-tower of long deserted Mistra; not Athens, as viewed from the beauteous temple of the Parthenon; not Rome, as it meets the view of the spectator on the summit of the Janiculum. Each of these noted places, considered as a panorama, has its beauties and attractions, but none of them has the advantage of location, the majestic and picturesque surroundings of Cuzco. Situated at the head of a salubrious and productive *bolson*—a pocket-like valley—and surrounded on all sides, except where a narrow cañon affords egress to the waters of the Huatanay, by the mighty barriers of the Cordilleras, it is a picture that for beauty of location and artistic setting cannot be duplicated, much less surpassed.

What must the city have been in the days of Huayna Capac, the Augustus of the Incan empire, when its palaces and temples were yet standing and adorned with their untold treasures of silver and gold! What must it have been when Sacsahuaman, fresh from the hands of its builders, towered aloft like a Gibraltar or an Ehrenbreitstein—typical of the power of the Incas—the palladium of the Children of the Sun, and the terror of their enemies; when Huayna Capac returning from a victorious campaign held military maneuvers on this rock, with, as an old chronicler informs us, “fifty thousand men all armed with gold and silver”!

Not so imposing, it is true, as the Rome of the Cæsars, with its superb structures of polished marble, when some victorious general, enjoying the honors of a triumph, en-



PULPIT IN THE CHURCH OF SAN BLAS, CUZCO,
MADE BY AN INDIAN ARTIFICER.



THRESHING AND WINNOWER WHEAT IN THE VALLEY OF CUZCO.



tered the imperial city surrounded by the trophies of conquest, amid the joyous acclamations of myriads of grateful people. But it was imposing enough and gorgeous enough to strike with awe even those of the conquistadores who were familiar with the wealth and the splendor of the noblest capitals of Europe.

I do not for a moment credit the story, so long accepted as true, that the population of Cuzco in the time of the Incas amounted to two hundred thousand or more. It was undoubtedly much less than this—probably much less than one-half this number. Still less credible is the statement of Salcamayhua that Huascar had three million men in his army, and that the forces of his enemy counted half that number.¹ In area the Inca empire was greater than that of Charlemagne, and as extensive as that of Cæsar Augustus, but it is doubtful, notwithstanding what is usually asserted to the contrary, whether the population of this territory was ever as great before the conquest as it is to-day. The extravagant statements so often made, regarding the teeming millions within the dominions of the Children of the Sun before the arrival of the Spaniards—millions that, we are asked to believe, were almost exterminated by the cruelty of their conquerors—will not bear serious investigation. For, outside of Cuzco, Quito, Chimú and Cajamarca there were no great centers of population, and even in these places the number of inhabitants has been greatly exaggerated. In a country like the empire of the Incas, where there was so much arid and unproductive land, in spite of the extensive tracts under irrigation, and where none of our domestic animals existed, the means of subsistence were not only necessarily limited, but they were also totally inadequate to meet the demands of the dense population—ten millions and more—about which certain writers have waxed so eloquent.

And no more worthy of credence are certain stories of Inca prowess and conquest with which some of the early

¹ Op. cit., p. 115

writers delight to regale their readers—stories that are more worthy of the pages of Orlando Furioso than of sober history. Yet there are certain well-attested facts in the campaigns of Huayna Capac and Tupac Yupanqui, while crossing the lofty crests of the Andes in Quito and Chile, which fairly rival any similar achievements by Hannibal or Napoleon, and show that these two Incas had military genius of the highest order.

When one contemplates the splendid location of Cuzco, and considers what the Incas were able to achieve from this city as a base, one marvels why the Spaniards did not retain it as the capital of the viceroyalty instead of transferring it to Lima. The location is far more beautiful than that of either Quito or Bogotá—although both of these cities are remarkable for the beauty of their sites—while it is more readily accessible than either of these capitals, and nearer to the great highways of the world's commerce.

Among the descendants of the Children of the Sun there is an instinctive feeling, born probably of age-long desire, that the capital of their Incas is one day to regain its pristine ascendancy. This may seem like a hope based on the stuff that dreams are made of, but is it?

The greatest drawback to the development of Cuzco, the chief reason why the seat of the viceroyalty was transferred from it to Lima, was the lack of means of communication with the rest of the world. With the recent completion of the railroad to the city, this drawback has been removed. When now it shall be put into direct communication with the capital and the cities on the plateau to the north, by means of the railroad now rapidly approaching completion; when, furthermore, it shall be connected by projected branches with the Ucayali and the Madre de Dios, as it will be soon; then will Cuzco be on the highroad of progress, and then will she once more regain partly, if not entirely, that supremacy which was

hers from the time of Manco Capac to that of Francisco Pizarro.¹

The reason is manifest. She is to-day, as she was in the time of the Incas, in the most densely populated section of Peru. She is in the center of a territory of vast riches and untold possibilities. The eastern slope of the Andes—the Montaña—has scarcely been touched, and yet it is the most fertile and the most promising part of the republic. In a few years more she will be in a position to develop and control an extensive trade in the upper Amazon basin. She will also be on the great pan-American railway that is to connect Buenos Ayres with New York.

When that day comes, and it is not far distant, the dream of the long-expectant, long-suffering Quichua Indians will be realized, and the old Inca capital will again be the happy home of tens of thousands, who are still as loyal to the memory of their departed rulers as they were in the trying days of the viceroy, Don Francisco Toledo, who ordered the execution of their revered Inca Tupac Amaru.² Then, too, will the noble old city of the Sun be animated by a new life, and enter upon a new era of prosperity, even as did the languishing city of the Popes after the return of Gregory XI from Avignon.

¹ The present population of Cuzco is less than twenty thousand, although it has been, even in recent times, much greater.

² When Toledo appeared before Philip II, after his return to Spain, it is reported that the monarch said to him: "Go hence to your own house. You were not sent to Peru to kill kings, but to serve them." *Idos a vuestra casa, que yo os enviè a servir reyes; y vos fuiste a matar reyes.*

CHAPTER XIV

THE CITY OF THE KINGS

Our original plan, after leaving Cuzco, was to return to Lima by way of Abancay, Ayacucho and Oroya. This would have meant a journey of several hundred miles on horseback, but it would have enabled us to see many places on the plateau that are celebrated in the annals of Peru, many places of great archæological interest and many places, too, that were rendered famous by the exploits of the conquistadores on their way from Cajamarca to the capital of the Incas.

Preëminently noteworthy among the towns along this route is Ayacucho, near which was fought the decisive battle that secured Peruvian independence. There is also Jauja, which, for a short time before the foundation of Lima, was the provisional capital of Peru. Both Jauja and Ayacucho, not to mention many other towns of greater or lesser importance, are on the line of the projected pan-American railroad. Work on the section between Oroya and Cuzco is being pushed forward as rapidly as possible and when completed, the traveler will be able to make the journey between Lima and the old Inca capital in a small fraction of the time now required.

Much, however, as we desired to follow our original itinerary, we were prevented from doing so by pressing engagements in Lima. Our only alternative, therefore, was to return by the way we came.

We saw little of interest on the return trip, that we had not seen before, but we had everywhere renewed experiences of that charming hospitality which had so impressed us on our way from the Pacific to Cuzco. At San

Jeronimo, where we bade adieu to our scholarly cicerone, Sr. P——; at Checacupe, where Mr. Mc—— entertained us a second time in his usual cordial manner; at Arequipa, where Sr. T—— and his friends gave us what was almost tantamount to the freedom of the city, we were made to forget entirely that we were strangers in a strange land. Our every wish was anticipated and our every want divined in a way that amazed us beyond expression. It really seemed as if our good friends had nothing to engage their attention but our comfort and pleasure. What particularly impressed us was the quiet, gracious manner in which everything was done. We were treated as life-long friends, or as members of the family, rather than as guests, and it was, consequently, most natural for us at once to feel at home and at our ease. How could it be otherwise among a people to whom hospitality is a traditional characteristic and entertainment a cherished art as well as a positive virtue?

Much as we regretted leaving the capital of the Incas, we were delighted to be again in the capital of the viceroys. It is in many respects the most attractive city in South America, and has a fascination about it that is entirely absent from larger cities like Buenos Aires or Rio Janeiro. True, it cannot boast of the picturesque location of Caracas or Bogotá, Quito or Cuzco, but there is a glamour about it that renders it quite unique among the capitals of the southern continent. No sooner is the visitor within its gates than he feels himself under the spell of its storied past and enchanting environment.

And well he may. For a while Lima was the capital of nearly all of South America, except Brazil, and the viceroy of Peru was the ruler of a more extensive territory than any monarch in Europe. It is true that he was subservient to the kings of Spain, to whom he owed his appointment, but owing to the distance of Lima from the mother country and the difficulty of communication when steam navigation and the telegraph were unknown, the

viceroy of Peru had practically all the power of an independent potentate. Even after Quito, New Granada and Venezuela were placed under separate governments, the sway of the viceroy of Peru extended from Guayaquil to Cape Horn, and from the impetuous Rimac to the broad embouchure of the Rio de la Plata.

It was on account of the immense extent of Peru, and his desire to be where he could more readily communicate with Europe, that Pizarro selected Lima as the capital rather than Cuzco or Jauja. Both of these being so high up on the tableland and difficult of access, were unsuited for the great political and commercial metropolis the conqueror had in his mind's eye when he sought a location for the capital of the greatest of Spain's dependencies. The site on the river Rimac, near an Indian village, met his requirements as did no other spot. It was at the base of the Cordillera, on a fertile plain and but two leagues from the ocean, where there was one of the best harbors on the coast. Unlike Quito and Bogatá, it was accessible to Spanish merchantmen and could easily be made a distributing center for merchandise coming from or destined for the Old World.

Having once decided on the location of the capital, Pizarro lost no time in laying its foundations. This was formally done the eighteenth of January, 1535. And as the founder had always entertained a great devotion towards The Three Holy Kings and as their feast day, the Epiphany, had occurred but twelve days before, he decided to call the new foundation *La Ciudad de los Reyes*—the City of the Kings. This name, however, was not long used, except in official documents. It soon gave place to Lima, from Limac, the name of the neighboring Indian village, as well as the name of the river which flowed by it.¹ On

¹ Limac is a corruption of the Quichua word *Rimac*, the participle of the verb *rimani*, to speak. The village was so called because of the sound produced by the swiftly flowing water over its steep rocky bed, or, as others declare, because of an idol in the village which was consulted as an oracle.

the escutcheon, which Charles V permitted the newly founded capital to use, the city was designated *La muy noble, insigne y muy leal Ciudad de los Reyes del Peru*—the very noble, notable and very loyal city of the Kings of Peru.

Before the erection of a single house was permitted, Pizarro had a plan of the city drawn on paper. And in making this plan he had in view not the small number—only sixty-nine—of those who were then prepared to make their homes there, but the future greatness of “The Empire City of the New World.”

Moreover, as the city had to be in God and for God and in His name—*en Dios y por Dios y en su nombre*—to use Pizarro’s own words, work was first begun on the church, which was named *Nuestra Señora de La Asuncion*.¹ The first stone and the first pieces of timber in the new structure were put in place by the hands of the Adelantado himself, who wished, like the other conquistadores, to emphasize his zeal for religion and his devotion to *La Santisima Virgen, Madre de Dios*.

In planning the City of the Kings, Pizarro made the squares large and the streets unusually wide. This latter feature at once attracts the attention of the visitor, as it is in such marked contrast with so many other American cities founded about the same time. Charles Dickens would doubtless find the same fault with it as he did with Philadelphia; for Lima, like the City of Brotherly Love, could also, on account of the regularity of its streets, be called “The Gridiron City.” And like Washington, it might also bear the name of “City of Magnificent Distances.”

¹ Pizarro gave it this name because he had a special devotion to our Lady of the Assumption, and wished to have the first cathedral in Peru named in her honor. As, however, the first episcopal see was established in Cuzco and not in Lima, as the conqueror had anticipated, the title of *Nuestra Señora de la Asuncion* was transferred to the cathedral of Cuzco, while the first church in Lima was, on the occasion of its erection into a cathedral in 1543, dedicated under the invocation of St. John the Evangelist.

The most attractive and animated part of Lima is undoubtedly the Plaza Mayor, around which are grouped the cathedral, the government and municipal palaces and other imposing structures. Here towards evening are gathered the beauty and the fashion of the capital, and one is sure to find *les dernieres créations* of the Parisian modiste a few weeks after they make their appearance on the boulevards of the French capital. The beautiful toilets of the Limanian ladies are probably one of the reasons why the City of the Kings has long been known as the Paris of South America, for it requires no great stretch of the imagination, when witnessing the beautifully gowned *señoritas* driving along the Calle de la Union, or in the Paseo Colon, to fancy oneself a spectator of the brilliant turnouts of the Champs Elysées or of the Bois de Boulogne. One could then easily believe that there was a reason for at least the first part of the old saying that "Lima is the heaven of women, the purgatory of men, and the hell of burros."¹

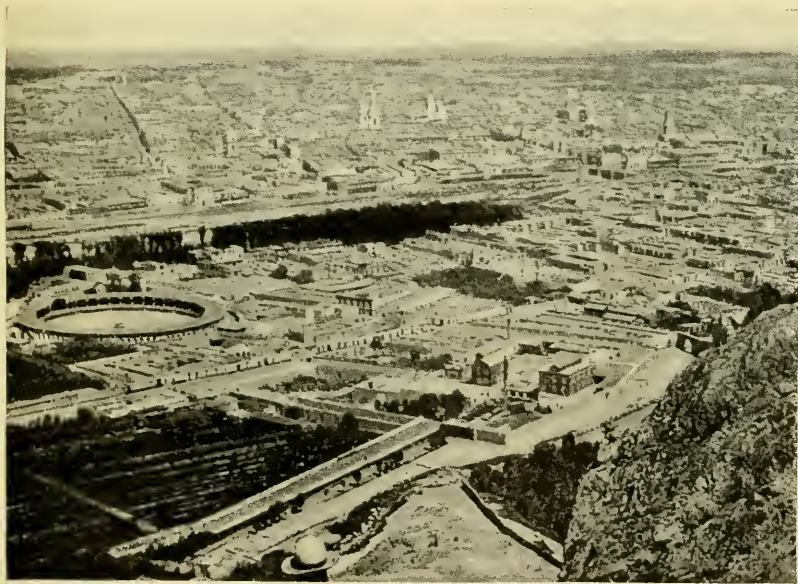
In the morning, when the women, in their sable dress and *mantilla*—which have long replaced the famous *saya y manto*—are seen going to or returning from church, the city seems like an immense convent. But on the occasion of great national or church celebrations, and especially during the carnival season, "Lima is no more than a city of Andalusia transplanted to the New World, with all the extravagances of the romantic, artistic and audacious spirit of old Seville, Malaga and Cordova." Then the entire atmosphere is redolent of the past, and the heavily-barred windows and *miradores*—Moorish balconies—carry one back to the gay and splendid festivities of viceroval magnificence.

The most remarkable and most imposing building in the city, and the one that first claims the attention of the visitor, is the cathedral. It occupies the site of the church

¹ In Heylin's *Cosmographie*, 1654, England is called "The paradise of women, the purgatory of servants, and the hell of horses."



THE CATHEDRAL OF LIMA.



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THE CITY OF THE KINGS.

built by Pizarro nearly four centuries ago. It is copied to a certain extent after the famous cathedral of Seville, which was formerly regarded as one of the wonders of the world. Although the Lima temple has not the splendid *Giralda* that adds such beauty to its wonderful prototype, it is, nevertheless, after the cathedral of the City of Mexico, the most magnificent place of worship in the Western Hemisphere.

The interior decorations of the cathedral are in keeping with its exterior grandeur. Among these are its richly adorned altars and its ornate choir of artistically carved cedar and mahogany. There is also a large pipe organ made in Belgium and said to be the best in South America. Among the many oil paintings is a valuable portrait of St. Veronica by Murillo, bequeathed to the church by a former archbishop, Mgr. Luna-Pizarro.

The most interesting object to one who visits the cathedral for the first time is the remains of its founder, Francisco Pizarro. For many generations they were preserved in the crypt, in which some of the viceroys were interred, and which has also been used as a burial place for the archbishops. Here also repose the remains of his daughter, Francisca, by Inez Ñusta, niece of the illustrious Inca Huayna Capac.¹ All that is mortal of the illustrious conquistador now reposes in one of the side chapels of the

¹ "Dió Doña Francisca Pizarro cinco mil pesos oro, por estar sepultado en ella el Marques D. Francisco Pizarro, su padre"—Doña Francisca Pizarro gave five thousand dollars in gold because her father, D. Francisco Pizarro, was buried in it. Thus writes Padre Bernabé Cobo, whose precious work, *Historia de la fundacion de Lima*, written in 1639, remained in manuscript until 1882, when it was published with annotations by the distinguished Peruvian scholar, Manuel Gonzalez de la Rosa. The same work, together with Padre Cobo's valuable *Historia del Nuevo Mundo*, was published in Seville in 1892 by the eminent Americanist, Marcos Jimenez de la Espada. I refer especially to Padre Cobo's work on Lima, because many erroneous notions have obtained regarding the City of the Kings, but more particularly because many modern writers have expressed doubts about the burial of Pizarro in the cathedral. Padre Cobo's testimony can be accepted as conclusive.

cathedral and may be seen by obtaining the necessary permission.

While contemplating the moldering remains,¹ partially concealed by dusty tatters, of the daring and invincible conqueror, I recalled the words of Southey, who writes of Pizarro:

“A greater name

The list of Glory boasts not. Toil and Pain,
Famine and hostile elements, and Hosts
Embattled, failed to check him on his course,
Not to be wearied, not to be deterred,
Not to be overcome. A mighty realm
He overran,
And wealth and power and fame were his rewards.”

And yet, strange is it not? there is not a single statue to the memory of Pizarro in the whole of Peru. There are many noble monuments in Lima erected in honor of those who have deserved well of their country or of humanity. There are monuments commemorating the deeds and the prowess of Columbus, Bolivar, San Martin, Grau and Bolognesi, but not a single block of marble or a single plate of bronze to record the exploits of the first ruler of

¹ Lima, writes the noted Peruvian writer, Sr. E. Larrabure y Unanue, may feel proud to be in possession of the rich treasure of these remains, for “They personify an entire epopee. They recall a series of events which seem rather to belong to the domain of fable than to that of history; from his terrible conflicts with the Indians and with nature across the isthmus of Panama when he cut his way to the South Sea and had his brigantines transported on the shoulders of his men from one ocean to the other, until the heroic resolution taken by the famous thirteen—*los trece de la fama*—on the island of Gallo; the discoveries and explorations from Tumbes to Cajamarca; the march of Hernando and a few soldiers to the coveted temple of Pachacamac; the sanguinary scene which accompanied the captivity of Atahualpa and the downfall of the empire, and, as the catastrophe, the intestine wars which caused to fall beneath its knife the two brothers, as they were called in the good times of their intimacy; Pizarro, astute and dominant; Almagro, trustful and generous; but both victims of their own audacity and their lack of education.” *Monografias Historico-Americanas*, p. 354, Lima, 1893.

Peru—of the one who is justly regarded as among the most eminent of the conquistadores.

“Why is it?” I asked a distinguished government official in Lima, “that you have no statue or monument of any kind to the memory of Pizarro? You have erected them in honor of others less known and less distinguished for their achievements?”

“It is difficult to answer that question,” was the reply. “The only reason I can assign is that the viceroys and grandees of Spain were unwilling to honor in any signal manner one of such low birth as Pizarro. An ignorant swineherd, born out of wedlock, a soldier of fortune unable to write his own name, did not appeal to them as one worthy of special distinction. Then again, his cruelty towards the Indians, greatly exaggerated, I think, and his judicial murder of Atahualpa may have made them hesitate to glorify him as a hero or as a benefactor of his race. Personally,” continued my informant, “I should like to see a monument to Pizarro in one of the plazas of the capital he founded, and I know there are many of my opinion.

“The conqueror of Peru had his faults, no doubt, but many of them should be attributed to the age in which he lived rather than to any innate depravity or moral delinquency of the man himself. Say what you will, the achievements of the man rank him among the most notable characters of all time, and his name will be ever inseparably associated with some of the most brilliant exploits recorded in the annals of conquest. There are hundreds of shafts and statues in Europe erected to the memory of men who have not a tithe of the claim to distinction that Pizarro has, and I hope the day will soon come when my country will give formal recognition—tardy though it be—to one of the greatest military and administrative geniuses of his own or of any age.”

My informant was right. We may not like the conqueror of Atahualpa, but we must admire him. After an

unfortunate infancy and an obscure adolescence, during which he had none of the advantages of home training or scholastic instruction; after an early manhood spent among a profligate soldiery in a desperate struggle against fortune, the impecunious adventurer becomes the master of a more extensive empire than that of his puissant sovereign in Europe. An iron will and a rare prudence in the hazards of war and the ventures of business enterprise always secured for him the laurels of victory and the guerdon of success. He was never defeated and never taken by surprise. Everywhere he went in Peru he left imperishable monuments of his passage. In less than seven years he founded the cities of Piura, Trujillo, Jauja, Huamanga, Huanuco, La Plata, Arequipa and Lima. In addition to this, he contributed materially towards the betterment of Tumbes, Puerto Viejo, Cajamarca and Cuzco. He laid the foundations of commerce and art, industry and agriculture, and made special provision for the moral and religious development of his subjects. No adventurer ever conquered a more extensive territory, or achieved so much with so little. No one ever gave greater riches to the land of his birth, no one spent less on himself, or more in furthering the best interests of a conquered country. And, although he had command of almost limitless resources and was able to reward his lieutenants with possessions richer than those of princes, no one was ever more loyal to Spain or deserved better of Peru.

What such a man might have become, had his childhood and youth been different, and had he enjoyed the advantages of education and culture, is idle to speculate. As it was, he became, by the sheer force of genius and daring, one of the greatest and most successful commanders in history. Had he possessed, in addition to genius and daring, the accomplishments of a Cortes or a Ximenes de Quesada, it is not too much to assert that he would now take rank with such transcendent leaders as Cæsar and Bonaparte.

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Yet, notwithstanding all his limitations, the fact still remains that Francisco Pizarro was one of Spain's most distinguished sons, and one of Peru's greatest benefactors, and as such his memory is deserving of far greater honor than it has yet received. As the conqueror of the greatest empire in the New World, as the founder of the beautiful City of the Kings, he is entitled to the noblest and the most conspicuous monument in the capital of the republic. But whether Peru ever honors the illustrious conquistador in this manner or not, it matters little, so far as his fame is concerned, for he holds a place among the immortals from which he can never be dislodged. In the words of a gifted Peruvian *poetisa*,

“Fundó ciudades y dejó memorias,
Que eternas quedaran en las historias.”¹

A short distance from the cathedral is the admirable church of La Merced. It is notable not only because it is one of the most beautiful structures in the city, but also because its foundation is due to Hernando Pizarro, the brother of the conqueror. One of the greatest ecclesiastical functions of the year is celebrated in this church on the twenty-fourth of September, the feast of Nuestra Señora de la Merced, the patroness of the arms of Peru. The president of the republic and his cabinet and all the representatives of the government are present at this celebration, and the church then presents a scene of splendor that is rarely witnessed elsewhere

¹ “He founded cities and left a record that will endure as long as history's eternal page.”

After this work was ready for the press I was glad to find that in 1892, on the occasion of the removal of Pizarro's remains to the chapel in which they now repose, His Grace, Manuel Tovar, the archbishop of Lima, expressed himself on this subject as follows:

“God grant that at no distant day we may all—sons of this land and strangers who visit our shores—be able to salute with admiration and respect in the Plaza Mayor of the Peruvian metropolis the glorious statue of the conqueror of Peru and the founder of Lima.” *Ilustracion Española y Americana*, Aug. 22, 1892.

outside of the great basilica of St. Peter's in the Eternal City.

Rivaling the church of Merced and the cathedral in beauty and grandeur are the stately and massive churches of San Francisco, San Augustin and San Domingo—three edifices that would command admiration in Rome or Paris, so famed for their places of worship.

San Domingo is celebrated as being the last resting-place of Santa Rosa, who was in 1670 declared by Clement X to be the *Patrona Universal y Principal de America, Filipinas é Indias*—patroness of all the Americas and the Philippine Islands and the Indies,—and who is, as the Roman breviary beautifully expresses it, *Primus Americæ Meridionalis flos sanctitatis*—the first flower of sanctity of South America.¹ Her altar, adorned with an exquisite marble image of the saint, donated by one of the popes, is one of the most charming works of art in the city. It is always decked with fresh, sweet-scented roses, and at all hours of the day one will find crowds of people, young and old, kneeling in silent prayer around this favorite shrine.

Although the people of Lima never tire of sounding the praises of their sweet little Santa Rosa,² they do not forget another one of their saints to whom the church in Peru is deeply indebted. This is Santo Toribio, the second

¹ Santa Rosa was the first but not the only saint, as is usually asserted, of South America. Lima alone claims four others who were either born in Peru or who chose it as the field of their apostolic labors and sanctified themselves on its soil. These are St. Francis Solano, a Friar Minor, the apostle of Tucuman; St. Toribio, Blessed Martin Porres, A Franciscan Tertiary; and Blessed John, Massias, a Dominican lay-brother, who was born and died in Lima. Blessed Marianna de Jesus, known as the Lily of Quito, whose life in many respects resembled that of Santa Rosa, should also be classed as a Peruvian saint, for the province of Quito was long a part of Peru.

² As an evidence of the extraordinary popularity of Santa Rosa, it suffices to observe that at the celebration of her tercentenary in Lima in 1886 it was found that the number of works in various languages treating of her life and virtues amounted to nearly three hundred. For so modern a saint, and one whose life was so hidden, this is truly astonishing.

archbishop of Peru. He was born in Spain, it is true, but the Peruvians claim him as their own. Like the great bishop of Chiapas, Las Casas, he was remarkable for his labors in behalf of the Indians, among whom his name is still held in benediction in all parts of Peru.

His biographers tell us that during the twenty-five years he ruled the archdiocese of Lima, the saintly prelate spent eighteen in visiting his flock and that the distance he traveled during this time was nearly twenty-five thousand miles. When we are told that much of his traveling was done afoot, in wild and distant parts of the country, among inhospitable and almost inaccessible mountains, where at times it was impossible to find either food, drink or shelter, and in the extremes of heat and cold, we can form some conception of the strenuous character of his missionary career and of the magnitude of his labors.

During these visits to the bleak and arid puna and to the sultry montaña beyond the Cordilleras, he confirmed no fewer than a million souls,¹ most of them Indians, who had been evangelized by zealous missionaries who had preceded him. Indeed the greatest part of his time was devoted to these humble and scattered sheep of his flock, and he left nothing undone to secure them in the rights that were theirs as children of a common Father. He was their acknowledged protector, and much of the legislation that had its origin in the various councils and synods convened during his administration, had in view the welfare of these longsuffering victims of injustice and oppression. He was a Charles Borromeo in administrative capacity, and a Francis Xavier in missionary activity. He was in very truth a man of God, and most deserving the epithet "Apostle of Peru."²

But Lima is not only remarkable for its churches and

¹ Pope Benedict XIV, *De Canonizatione Sanctorum*, Lib. III, Cap. XXXIV.

² *Mirabilis Vita et Mirabilia Acta Ven. Servi Dei Turibii Alphonsi Mogrobesii, Limanensis Archipræsulis*, a Cipriano Herrera, Romae, 1670, and *Vie de Saint Turibe*, par Dom Berengier, Paris, 1872.

saints, it is also distinguished for its schools and scholars. Here is found the oldest university of the New World, that of San Marcos. It was established in 1551—"fifty-six years before the English settlers landed in Jamestown; fifty-eight years before Hudson sailed into the bay of New York, and sixty-nine years before the *Mayflower* touched the shores of New England." By virtue of the charter, it enjoyed all the honors and privileges of the University of Salamanca, one of the most noted seats of learning in Europe. It proudly points to a countless number of its alumni who have won international distinction in science, letters, theology, medicine and jurisprudence.

Lima was also the first city in the New World to have periodicals like our modern newspaper. She had them, indeed, when but few cities in Europe could boast of such "Expeditious messengers of intelligence." The list of works that came from the Lima press in the seventeenth century exceeded four hundred, all of which are now extremely rare and highly prized by bibliophiles.

For generations Lima was the center of learning and culture in South America. Indeed, during the whole of the colonial period it was, as has been well expressed, *la cabeza y el corazon*—the head and the heart—of the southern continent. The literary productions of her sons and daughters, who followed the schools of Seville and Andalusia, were of a high order of merit, and in many instances compared favorably with the masterpieces of the mother country.¹

But the literary output of Peru was not confined to the City of the Kings. Literature was cultivated in other parts of the viceroyalty, notably in Cuzco and Arequipa, and with such success as to deserve the unstinted praise of Cervantes and Lope de Vega. Even in obscure corners of

¹ Special mention should here be made of that admirable religious epic, the *Cristiada* of the Dominican, Fray Diego de Ojeda. Of parts of this masterpiece no less an authority than the distinguished Spanish author, Quintana, writes that they are equal to the most sublime passages of Homer, Dante or Milton.

the Andes it had its votaries. The most remarkable instance of this is in the person of a woman, supposed to have been Doña Maria de Alvarado, a descendant of the conquistador, Captain Gomez de Alvarado. This

“Fenix rara á dulces muses inclinada”

is known by her poetical name *Amarilis*, which she used in her celebrated metrical correspondence with Lope de Vega, who appears under the name of *Belardo*. Judging by the specimens of her work that have come down to us, this remarkable woman deserves to rank among the first poets of the viceroyal régime, and the productions of her muse are quite equal to those that have ever come from the pen of any of her sex in Latin America.

It is not my purpose, however, to tell what Lima—much less what Peru—has achieved in literature and science; what her schools and colleges have done for the intellectual advancement of her sons and daughters. That of itself would require a large volume. Suffice it to say that it was for a long time regarded as the Athens of South America, and was actually known by this name during the greater part of the viceroyalty. But, after Peru separated from Spain and wars and civil dissensions multiplied, the City of the Kings lost her proud supremacy in letters and science, and the title, she had so long borne with such distinction, was claimed by the capital of Colombia. Since the War of Independence, the Athens of South America has been in Bogotá, but there is reason to believe that it will soon be once more on the banks of the Rimac.

All indications point in this direction, notwithstanding the literary and scientific work that is being done in Bogotá, Buenos Aires and Santiago de Chile. For not since Peru became a republic has Lima manifested such intellectual activity as she has exhibited during the past few years. She has made notable advances in every branch of research, and her learned societies, especially the *Athenæum*, the

Historical Institute and the *Geographical Society* are doing work that is recognized the world over as of permanent value. This is evinced, to give but two illustrations, by the *Boletín de la Sociedad Geográfica de Lima* and *La Revista Historica*, the organ of the *Instituto Historico del Peru*.

Aside from her numerous educational institutions and learned societies the best evidence of the new intellectual life that pervades the capital of Peru is seen in her splendid National Museum and in the National Public Library.

Although the Museum was completed but a few years ago, it already contains in its spacious halls many collections of supreme interest to the student. Of special value are the treasures in the departments of history and archæology. My attention was particularly claimed by the objects taken from the prehistoric cemeteries of Ancon and Pachacamac,¹ both places but a short distance from Lima. Owing to the absence of rain in these localities the objects buried with the dead, even the most delicate textile fabrics, are in a wonderful state of preservation. Indeed, some of the articles of clothing and adornment are as well preserved as any similar fabrics found in the tombs of Egypt. Their colors, too, are as bright as when first applied, although the objects in question all belong to pre-Columbian times.²

Frequently, as I passed in review these curious relics of a prehistoric past, my mind reverted to the great museum of Bulak on the banks of the Nile. Here, too,

¹ The reader who may be interested in the remains that have been found in Pachacamac and Ancon, is referred to Max Uhle's work, *Pachacamac*, Philadelphia, 1903, and to the two sumptuous volumes by Reiss and Stübel, entitled *Das Totenfeld von Ancon*, Berlin, 1880, 1887.

² Wiener fancies that he has discovered in the various designs which enrich the textures found in the *Huacas*—tombs—of Peru evidence of a written language. In his work, *Pérou et Bolivie*, p. 760, he says explicitly, *Nous fixons notre pensée sur le papier, le Péruvien l'inscrivait sur le tissu*. I must confess that I have never been able to detect in the bizarre figures of old Peruvian tissues any more evidence of a written language than may be found in a piece of calico or organdy.

are collected the remains and the cerements of a race who, like the Incas and their predecessors, have left monuments as imperishable as they are mysterious. Indeed, the monuments, especially some of the specimens of architecture, of the ancient Peruvians, forcibly remind one of certain structures in the one-time land of the Pharaohs. Not without reason, then, has Peru been called the Egypt of the New World. And as I wandered through this noble institution, noting the scientific value of the rare collections gathered within its halls, I said to myself—"Here is the beginning of an American Bulak, a museum that will do for the history of Incaic and pre-Incaic Peru what the museum in Cairo has accomplished for the history of the Egypt of the sphinx and pyramid builders.

Peru is singularly rich in the remains of its aboriginal inhabitants. They are found in all parts of the country, from its northern frontier to Lake Titicaca, and from the Pacific to the Montaña. Some of these have already found a place in the National Museum, but there are still myriads of others scattered throughout the republic awaiting the advent of the intelligent collector and their final transfer to the capital of the nation. Much has already been taken from the ruins and cemeteries of Chimú, Ancon, Cuzco and Pachacamac, but much more is awaiting the pick and the spade of the archæologist. The investigations of Reiss and Stübel in Ancon, of Max Uhle in Pachacamac, and of Bandelier in the islands of Coati and Titicaca, show what rare treasures are in reserve for the explorer in this still little-known land, and the success which has attended their labors should stimulate others to walk in their footsteps. Peruvian archæology is still in its infancy, and for that very reason there is no more promising field in the world than Peru for those who are interested in studying the remains of tribes long since extinct, or of people who have played such an important rôle in South America as the Children of the Sun.

The government of Peru realizes the importance of all

work that will in any way contribute towards filling up the many lacunæ which still exist in the history of the country. For this reason it is specially favorable towards research of all kinds by whomsoever undertaken, and for this reason also it is eager to make the collections in the National Museum as complete as possible. If the present plans are carried out, there is no doubt that this institution will eventually be the most important of its kind in the New World—a veritable Bulak for the American Egypt—and that it will be of the utmost assistance in enabling future scholars to solve certain problems in ethnology and anthropology that have hitherto baffled all the efforts of the keenest investigators.

Quite as important for history as the museum for archaeology is the well-equipped Public Library which, if not the largest, is certainly the most valuable in South America. Unfortunately it does not now possess all the inestimable treasures it contained three decades ago. Then it counted fifty thousand printed volumes and eight thousand manuscripts. Among the printed volumes was every work that had been issued from the press of Peru since 1584. Many of these were as rare as they were valuable, while most of the manuscripts were absolutely unique. There were also the productions of nearly all the chroniclers of Spanish America, some of which it would have been difficult, if not impossible, to duplicate.

Then Peru witnessed that terrible invasion from the south euphemistically called the War of the Pacific—a war of spoliation and conquest without parallel in the New World—a war unprovoked by Peru, but signalized on the part of the invader by acts of barbaric atrocity that were a disgrace to a nation calling itself civilized.

In January, 1881, the Chilean troops entered Lima. “No one,” wrote Don Ricardo Palma, in his protest against the wanton and barbarous acts of destruction of the invading army, “could have supposed, without an insult to the government of Chile, a government that pretends to

civilization and culture, that this government would seize as plunder of war the appliances of the university, the museum of the school of medicine, the instruments of the school of mines, the national archives, and objects belonging to other institutions of a purely scientific, literary or artistic character."

Yet, during their occupation of Lima, the Chileans did not hesitate "to invest war with a barbarous character foreign to the lights of the age, to the usages of honorable belligerents, and to the universally recognized principles of right." The library and the university of San Marcos were converted by the soulless Vandals into barracks. The books, writes Markham, "were either sold as waste paper, thrown into the street, or stolen. The pictures and everything of value in the exhibition building, the laboratory and appurtenances of the school of medicine, all the models and appliances for teaching in the schools of art, sciences and trade, and public monuments, were destroyed, or carried off. The benches of the lecture rooms were cut up to make packing cases for the plunder."¹

In this crime against civilization, in this outrage perpetrated on a sister republic, Omar and Alaric were outdone in deeds of desolation and savagery. No wonder the United States minister felt called upon to report them as "violations of the rules of civilized warfare, which call for an earnest protest on behalf of all civilized nations."

Thanks, however, to a number of public-spirited Peruvians, who occupied themselves during the Vandalic occupation of their fair capital in collecting, as far as possible, the scattered treasures of their ravaged library, enough of the books and manuscripts—about eight thousand all told—were recovered to form the nucleus of a new library, which was begun as soon as the enemy withdrew from the city. And, realizing the appalling loss that letters and science had sustained in Lima, through the ruthless soldiery of Chile, the United States and Spain, Argentina and

¹ *A History of Peru*, pp. 417, 432, 471, Chicago, 1892.

Ecuador promptly came forward with generous donations of books to replace those that had been destroyed or stolen. Thanks to these and other gifts from various sources, public and private, the library of Lima has again on its shelves almost as many volumes as it had before the arrival of the destructive invader. It and the museum constitute two of the richest storehouses of books and specimens in the whole of South America, the two depositories of literary and scientific appliances whither the historian and archæologist will first turn for material in their respective lines of research.

Nothing, indeed, impressed me more while looking over the rare books and manuscripts of Lima than the splendid opportunity here offered the man of letters and the historian, of working among materials that are practically unknown and yet of the greatest value. Among the manuscripts are gems of prose and verse sufficient for a large anthology, while among the published works are many connected with the early history of Peru, that are of such exceeding rarity as to be found in but few libraries and to be quite beyond the purse of anyone but a millionaire booklover.

It was while reveling among these treasures that I saw how a dream, which I had long fondly cherished, and which I am sure many students of Peruvian history have likewise equally cherished, could eventually be realized. And if my Limanian friends will permit an ardent admirer of their chivalrous and cultured city to express his whole thought, I will say that my dream had reference to the publication of the rare historical works in their library in such form as to render them available for the increasing multitude of students throughout the world who desire positive knowledge at first hand regarding the history and antiquities of the great empire of the Incas.

Who are more competent than the directors of the library and museum, and the members of the historical and geographical societies of Lima to annotate and edit these

works? Who are so well qualified to give critical estimates of the true values of the various early chronicles? Who are so familiar with the manners and customs of the Quichua and Ayamara Indians, and so familiar with their language,—a knowledge of which is so essential in dealing with many details of history, geography and ethnology? And for whom should such an undertaking be more a labor of love than for those who have most faithfully preserved the traditions of the Children of the Sun, and in whose veins courses the blood of the most distinguished of the conquistadores as well as of the most illustrious of Spanish grandees?

What Americanists have long desired, and what they now desire more than ever, is a critical, well-annotated *Coleccion de los Historiadores del Peru*, something in the style of the works on Peru edited by Clements R. Markham for the Hakluyt Society. Similar collections have been published by some of the other South American republics, and several attempts have been made, by the scholars of Spain and Peru, to inaugurate the work in question. *Las Memorias de los Vireyes*, the *Documentos Historicos* of Sr. Ordriozola, as well as the works edited by M. Gonzalez de la Rosa, M. Jimenez de la Espada and Ricardo Palma have made a beginning. It remains for the scholars of Peru to complete the work begun when times and conditions were not as auspicious as they are at present.

In addition to a complete collection of the early chroniclers and historians there should, *me judice*, be new editions of the works of Arriaga, Calancha and Melendez, which throw such a flood of light on the manners and customs of the Indians, their rites and superstitions. Each of these works, as well as all the others in the collection, should, in order to be of the greatest service to the student, be enriched with copious notes and an elaborate index, which, as Holmes truly observes, is what "every book worth printing is entitled to." I emphasize the importance of these things because of their absence from

many otherwise valuable books published on Spanish America. I have, for instance, in my library the complete works of the recent editions of Peter Martyr, Las Casas and Oviedo y Valdez, not to mention other similar productions on American history, but not one of them has either index or annotations of any kind. The consequence is that the reader, unless thoroughly familiar with their contents, is obliged to lose much valuable time whenever he consults them—a loss that would be obviated if the books were properly indexed and annotated.

I refer especially to the necessity of illustrative notes, because of the many changes in the names of places since the time of the conquest, and of the different ways of writing the same names, as well as of the various and contradictory statements sometimes observed of different authors regarding localities and events. Giving the reader the advantage of the researches of such investigators as Raimondi, Mendiburu and Paz Soldan, the study of Peruvian history would be invested with all the interest and charm of a romance, and the story of the land of the Incas, which has always had an interest possessed by that of no other country in South America, would then have a fascination that would be irresistible.

I have dwelt somewhat at length on the literary and scientific features of Lima because they appealed to me more than any other. I have also wished to voice the sentiments of many others who, I know, entertain the same views as I do regarding the matter in question, and at the same time speak a word in behalf of the future Irvings and Prescotts who, in the days to come, shall transmute the dry records of the early chroniclers into imperishable masterpieces of literature. I would not, however, have the reader infer that I was indifferent to the many other attractions of this fair capital, or that I did not appreciate them at their full value. Nothing is farther from my purpose.

Lima is to-day, as truly as it was in the time of the vice-

roys, *La Perla del Pacifico*. The beauty, the grace and the talent of her daughters still retain the same supremacy as they did when they inspired the songs of the poet who frequented the *tertulias* and *academias* of the viceregal court, and it is not rare to meet a fair Limanian of whom one can truthfully say, in the words of Calderon, that "she is crowned with beauty and laureled with knowledge":

"Se coronó de hermosura,
Se laureó de entendimiento."

The culture, generosity and nobility of her sons is in keeping with the best traditions of the mother country and exhibit that peculiar Spanish cachet which is the distinctive mark of the best and truest Americanism in the lands of Pizarro, Quesada and Cortes.¹

The visitor will not now find that display and luxury which in other days characterized the City of the Kings. The streets are no longer paved with silver ingots nor adorned with silver arches, as when the Count de Lemos and the Duke de Palata entered the capital as the representatives of the sovereigns of Spain. But, notwithstanding the absence of these things, there is everywhere evidence of wealth and comfort. And were one not informed of the fact, one would find it difficult to believe the city had passed through the horrors of the disastrous Chilean

¹ Jorge Juan and Antonio de Ulloa, op. cit., Tom. II, Lib. I, Cap. V, found, as does the traveler to-day, the personal charms of the women of Lima "heightened by those of the mind, clear and comprehensive intellect, an easiness of behaviour, so well tempered, that while it invites love, it commands respect. The charms of their conversation are beyond expression, their ideas just, their expressions pure, their manners inimitably graceful. These are the allurements by which great numbers of Europeans, forgetting the fair prospects they have at home, are induced to marry and settle here."

Another traveler, writing of the men of Peru, declares, and with truth, that they "have fallen heirs to the courtly grace and admirable *savoir faire*, which made the Knights of Santiago and Alcantara famous among the first gentlemen of Europe four centuries ago, and which, descending to their children and children's children, have become characteristic of Spanish-speaking people all over the world."

occupation but a few decades ago. On every side one observes surprising indications of material progress and prosperity. The population, which now counts one hundred and fifty thousand souls, is rapidly increasing, and large and stately structures, worthy of any capital in the world, are being erected in every part of the city. Among these are banks, mercantile and manufacturing establishments, which represent an immense expenditure for buildings and equipment. Foreign investors, having entire confidence in the power and stability of the government, have large interests here as well as in other parts of the republic, and the number of capitalists in Europe and the United States who are seeking investments in the "golden land of Peru" is constantly augmenting. English, Germans, French, Italians are quite numerous here, and all of them do an extensive business. Our own country is splendidly represented by W. R. Grace and Company, and by a number of successful mining syndicates; but the United States is far from occupying her proper place here in the world of commerce and industrial enterprise. There are countless openings here for wide-awake business men, and fame and fortune await those who know how to take advantage of the rare opportunities that are now offered in the marts of commerce, in the mines of the sierra and in the forest-clad regions of the upper Amazon basin.

When one notes the energy and enterprise of its citizens, and observes the remarkable progress they are making along every line of human endeavor, one can easily predict, without the slightest fear of erring, that the erstwhile City of the Kings will ere long have recovered all her former prestige as an emporium of commerce, and that she will again deserve, as in days gone by, the proud title of *Reina del Pacifico*—Queen of the Pacific.

CHAPTER XV

THE REALM OF THE GREAT CHIMU

The time had at last arrived for starting on my long journey across the Andes and down the Amazon. And, although I had all along felt that I should prefer to go by way of Cajamarca and Moyabamba, my itinerary from Lima to Pará had not yet been definitely determined. Many of my Peruvian friends, among them prominent government officials, strongly recommended the recently opened Pichis and Pachitea route. This would be much shorter and easier than any other, and could, compared with the other routes, be traversed with the minimum of fatigue and discomfort. The only arduous part of it would be a few days' travel on horseback between Oroya, the terminus of the railroad, and Puerto Bermudes, the head of navigation on the Pichis river. Arrived at this point, one could go by steamer to Iquitos on the Amazon, where one would find vessels going directly to Europe and the United States. This has for some years been the popular route, and the one usually chosen by the employés of the government who are engaged in the Department of Loreto, which comprises the northeastern part of the republic.

President Pardo, who was kind enough to take an interest in my projected journey across the continent, likewise favored the Pichis route. And then with a kindness I can never forget he said, "Two new launches, built specially for service on the Pichis and Ucayali rivers, have recently arrived in Iquitos and will, in a few days, make their maiden trips to Puerto Bermudes. I should be delighted to put one of these at your disposition and do anything

else in my power that will enable you to make the journey to the Amazon with the maximum of pleasure and profit. The way by Cajamarca is long and difficult, and implies a journey of nearly a month on horseback, in addition to a week's tramp through the almost trackless montaña, where there is not a single habitation of any kind."

As in La Paz, when a similar courteous offer was made me by the president of Bolivia, I begged for time to consider the matter. I had so set my heart on seeing Cajamarca, so famous in the annals of the conquest, that I did not wish to think of a route that would preclude the fruition of this desire. The fact that the journey by way of Cajamarca would be much longer and more arduous, far from deterring me from undertaking it, was rather an additional incentive to my making it. I had come to study the people of the country rather than dark and uninhabited forests, like those bordering the banks of the Ucayali, and I was, therefore, disinclined to allow the matter of ease and comfort to be the deciding factors regarding my itinerary. Besides this, there was the old sentimental objection against the Pichis route. It was off the line of travel of the conquistadores, and was otherwise entirely devoid of historic and romantic interest.

The day after my interview, I attended a banquet given at the National Club by the president of the Peruvian Corporation. Among those present were two retired government officials, who had rendered distinguished service to the republic in the cities of Trujillo and Chachapoyas. Our host, who had, on various occasions during my travels in Peru, extended me special courtesies, which I shall always gratefully remember, and who was aware of my intention to start for the Amazon in a few days, asked these gentlemen what they thought of the Cajamarca route as compared with the one by way of Puerto Bermudes.

"If," said the former prefect of Chachapoyas, "one wishes to get off the beaten track, and see the Peru of colonial times, where the manners and customs of the

people are still as they were in the time of the viceroys, one should by all means visit the country between Cajamarca and Moyobamba. To me it is the most interesting part of Peru. The people are hospitable, and the scenery in the sierra is grand beyond description. To one who is not afraid to rough it a little, the route to Iquitos, by way of Cajamarca and the Huallaga, is incomparably more interesting than the one by way of the rivers Pichis and Yucayali."

The ex-prefect of Trujillo cordially endorsed this opinion. "The Cajamarca route," he said, "aside from being the historic route across Peru to the Amazon, offers many other attractive features not mentioned by my Chachapoyas friend. Not the least of these are the fertile valley of Chicama and the little-known ruins of Cuelap, east of the Marañon. But the place most deserving of a visit is the site of the ancient capital of The Great Chimu. The ruins found here are unique, and in many respects as imposing as any in the republic. No one interested in prehistoric archæology should leave Peru without paying a visit to this spot."

The matter was then discussed by other members of the party with the result that I then definitely announced that I should immediately prepare to start for Trujillo, whence I should journey to the Amazon in the footsteps of Pedro de Orsua and Lope de Aguirre in their memorable quest of Omagua and Dorado.

"Who is going with you?" inquired Sr. V——, with undisguised concern. I replied that I purposed traveling alone, unless I should fall in with someone on the way. "That will never do," he said. "The journey is too long and trying to make alone. The risk, in case of sickness or accident, in traveling unaccompanied through such a long stretch of sparsely settled country, as that between the Pacific and the Amazon, is too great to justify your making the trip alone. We must find someone to go with you."

The following day, as I was walking along the Calle de Mercaderes, I met Sr. V——, whose face was wreathed in smiles. "You are," he exclaimed, "the very one I am looking for. I have just been to see His Excellency, the President, regarding your journey to the Amazon, and he agrees with me that you should not go alone. He has, accordingly, given instructions that you be furnished with a military escort from Trujillo to Iquitos. This is not because of any danger to be apprehended from the Indians, or from others on the way, but that you may be able to enjoy your trip free from all unnecessary cares and labor. Your escort will look after your saddle and pack animals, take care of your tent, where you may use it, do your cooking, where desired, and make every other possible provision for your comfort during your journey. You will also have letters from His Excellency to all the prefects ¹ *en route*, who will be requested to give you special attention while traveling in their respective departments."

The reader can imagine my surprise on learning this arrangement so kindly made in my behalf. Since my arrival in Peru I had been the recipient of favors of all kinds whithersoever I went, but this last one, so spontaneous and so unexpected, coming from the chief executive of the nation, and those who were nearest to him, was the culmination of all the delicate attentions and considerate acts that had so signalized my journeyings in the land of the Incas.

I shall never forget my last day in Lima. I had taken leave of the many kind friends who had made my sojourn in their fair city so delightful, and who had contributed

¹ "Peru is divided politically into twenty-two large territorial circumscriptions which, under the name of Departments and Littoral Provinces, are subject to the authority of a prefect who receives his instructions directly from the secretary of the interior. These circumscriptions are subdivided into one hundred and one provinces, which are in charge of sub-prefects; finally the provinces are subdivided into eight hundred and one districts, which are directly under the authority of governors." *Peru in 1906*, p. 93, by Alexander Garland, Lima, 1907.

so much towards rendering the journey I was entering upon both pleasant and profitable. Returning to my hotel to give instructions about my baggage, I found to my amazement that it had been greatly increased during my short absence. There was a fine Panama hat and a case of exquisite Bordeaux from a prominent member of the Chamber of Deputies. There was a beautiful silver goblet and a small medicine case from a well-known miner. There were water-proof sleeping-bags, blankets, umbrellas, photographic appliances, books and other similar articles, selected by thoughtful friends with a view to the pleasure and comfort they would afford the departing traveler in his long journey across the continent. Never was I more deeply touched than when I saw before me these manifestations of good will. And yet should I say that I was surprised? Had not all my previous experience in this hospitable land been but a series of similar acts of kindly foresight and unfailing generosity?

The day after departing from Lima, which I confess I left with a heavy heart, I found myself at Salaverry, the port of Trujillo. As I left the steamer I overheard the captain remarking to one of the passengers, "That frail man will never reach Pará. Only a hardy cholo should undertake such a journey. I will wager ten to one that he will die on the way." This aside was not intended for my ear, but it was no more calculated to discourage than the last words of a fellow passenger, a friend of mine, who was greatly opposed to my journey and who did not hesitate to pronounce it extremely hazardous, if not foolhardy. Seeing that his premonitions were of no avail, he bade me good-by, repeating, half in earnest and half in jest, Dante's well-known words:

"Lasciate ogni speranza, voi qu' entrate."¹

The first one to greet me on my arrival at Salaverry was Sr. V——, the prefect of Trujillo, a brother of his

¹ "All hope abandon, ye who enter here."

predecessor in office, and of the one who had so interested himself in securing for me a military escort.

"I received a telegram yesterday from my brother, announcing your coming," said the prefect after the usual greetings were exchanged, "and I have come to claim you as my guest during your sojourn in our city. You have come just in time for the great *funciones* that are to take place here on the occasion of the first visit of our new fleet. It is due to-morrow, and for the next few days there will be a series of entertainments of all kinds at which you are cordially invited to be present."

Trujillo is one of the many cities founded by Francisco Pizarro, and is named after the birthplace of the conqueror.¹ For a long time it was known as one of the most aristocratic cities in Peru and even to-day it counts many families that claim descent from the conquistadores or from distinguished Spanish grandees. But most of its former glory has departed and its population is reduced to about eight thousand souls. Yet, notwithstanding its decline, it is a place well worth visiting, not only on account of the attractions of the city itself, but more particularly on account of the famous ruins in its immediate vicinity.

I have always deemed it a privilege that I was able to take part in the festivities that were coincident with my

¹ In his *Lima Fundada*,¹ which would long ago have been forgotten were it not for its value as history, the poet Peralta Barnuevo, whom one of his admirers declares was the sweetest voice Parnassus ever knew, refers to the foundation of Trujillo by the conqueror of Peru as follows:

"Como padron de su famosa cuna
De la ilustre Trujillo por memoria,
Ciudad, á quien apenas habrá alguna,
Que puede competir su eterna gloria;
En la planta que mas juzgó oportuna,
Otra erige del tiempo, alta victoria;
Pues solo el que al modelo dió tal nombre,
Copia le pudo hacer de tal renombre."

¹ Por el Dr. D. Pedro de Peralta Barnuevo Rocha y Benavides, Canto VIII, Strophe 38 (Lima, 1732), en la *Coleccion de Documentos Literarios del Peru*, Colectados y Areglados por D. Manuel de Odriozola, Lima, 1863.

visit to Trujillo. I was thus able to observe at its best the ardent and noble character of the Peruvian when his emotions are stirred by patriotism and memories of brilliant achievements.

For several days after the arrival of the *Grau* and the *Bolognesi*—the latest additions to the Peruvian fleet—the people of Trujillo were delirious with joy and excitement. All work was suspended and nothing was thought of but balls, speeches, banquets and general merry-making. The streets and houses were gay with flags and bunting during the day, and illumined by fireworks and multicolored Chinese lanterns at night. There were excursions to the country-places of rich haciendados, receptions on the bright, armored cruisers in the roadstead, and rejoicings in every town and village of the department. At the grand ball given in honor of the heroic Admiral Carbajal and his officers, there was a blaze of color and a display of elegant toilets which revealed better than words could tell, the mystery and the potency of a Peruvian woman's *tocador*. Handsome young cavaliers in brilliant uniforms and charming young señoritas, aglow with the enthusiasm inspired by the occasion, presented a picture that once seen can never be forgotten.

Those who were unable to attend the public balls and receptions were not, therefore, excluded from the general rejoicing. Everywhere, as one walked along the streets, were to be heard the soft music of the guitar and the mandolin, and, in scores of richly decorated *salas*, minuets, fandangos and *mariquitas* were in full swing, to the accompaniment of the castanet and the vihuela.

Everywhere abounded buoyant gladness and patriotic exultation—feelings expressed by a recital of the glories of the country's past and a forecast of her greatness in the future. "Trujillo," the visitors were reminded, "was the first city in Peru that proclaimed emancipation from Spanish rule, for which reason the department, of which she is now the capital, was called *Libertad*—Liberty." And

time and again Admiral Carbajal, the Farragut of the Peruvian navy, and the then representative of the nation's forces on the sea, was assured, in words that came straight from the heart, that the patriotic people of Libertad would ever be found loyal to the best traditions of their fathers in all that concerned their country's honor and aggrandizement.

Much, however, as I was interested in all that I heard and saw during this triduum of rejoicing, and greatly as I was charmed by the hospitality and refinement of the good people of Trujillo, I cannot forget the pleasure I derived from a visit to the noted ruins of the city's environs, which, even in their decay, testify to the former existence here of a rich and powerful race about whom little is known except that their last ruler was named Chimu Canchu—The Great Chimu; that his dominions extended from Tumbez to Huacho, a distance of nearly six hundred miles; and that more than a century before the advent of the Spaniards, he was himself forced to become a vassal of the victorious Inca Pachacutec, "the Reformer of the World."

El Gran Chimu, as the Spaniards called the former capital of the Chimu chiefs, was probably the largest and most populous pre-Columbian city in the New World. Judging from the ruins scattered over the valley of the Rio Moche, it must have covered an area about twelve miles in length and five miles in breadth, and been the home of fully a hundred thousand inhabitants. It is comparable to Memphis in extent, and to the ruins of Nineveh and Babylon in the number and magnitude of its temples and palaces. Notwithstanding the long centuries that have elapsed since the city was abandoned, many of the ruins are still in an admirable state of preservation, and it is possible to determine with comparative ease the plans and the probable uses of many of the structures.

What most excites the wonder of the visitor is the beauty and delicacy of the arabesques and stucco-work which ornament many of the larger edifices. So artistic



PRE-INCAIC RUINS OF CUELAP, NEAR CHACHAPOYAS.



RUINS OF THE GREAT CHIMU.

are some of them that they remind one of similar decorations in the Alhambra and in the Alcazar of Seville. Many of them were painted, and in some instances the colors are yet remarkably bright.

That these adobe structures should have endured for so many centuries and that the arabesques should persist in all their pristine beauty and freshness, is easily understood when one recollects that it rarely rains here and that, when it does rain, the precipitation is but slight. Although the Spaniards called this place *El Gran Chimu*, its original name, and the one by which it is still usually known in these parts, is Chan-Chan, in the Chimu language, "sun-sun," presumably so-called on account of the never-failing intensity of solar radiation.

But more remarkable far than the decorations of the buildings are the objects which have been and still are found in the huacas, or burial places in and about Chan-Chan. The custom prevailed among the Chimus, as among many other American tribes, of burying with their dead not only the garments and ornaments used by them during life, but also every object of daily use. The clothes in which the bodies were wrapped were usually woven in patterns and figures of various colors, besides which many of them were adorned with feathers or with small plates of silver and gold in the form of birds and fish.

Among the objects found deposited with the dead are mats and work-baskets containing balls of thread, spindles, toys of various kinds, finger-rings, bracelets, necklaces, pins and earrings. There are also headdresses made of the many colored feathers of the macaw, splendid pieces of tapestry and embroidery beautifully figured, and dyed with colors of exceeding brightness, and richly embroidered mantles adorned with a tasteful combination of designs and colors that are truly surprising. Most of these objects were found buried with women. Deposited with the men, in addition to the garments they wore, were vari-

ous kinds of weapons, many of them of copper, such as knives, lance-heads, axes and star-shaped club-heads.

The huacas are particularly rich in pottery. Indeed, more specimens of ceramic ware have been taken from the ruins of Chan-Chan than from any other spot in Peru. Thousands of specimens have been sent to the museums of Europe and the United States, and, without counting those in the public museums of South America, there are many thousands in the possession of private collectors. Even a few days before my arrival in Trujillo, a friend of mine purchased in one lot more than a thousand specimens for a foreign museum. How many are still in the huacas hereabout, awaiting the future explorer, cannot be estimated, but the number must be enormous.

The pottery of the Chimus is as remarkable for the variety of its designs as for the artistic skill displayed in its workmanship. In it one will find imitations of every bird, fish, mammal, shell and fruit, with which the makers were acquainted. The human figure also occurs quite frequently. Some of the heads and faces are so well molded that they seem to be portraits, while others are so grotesque that their execution would do credit to the most skillful caricaturist. There are also groups of figures, men, women and children—portraying war dances, harvest scenes, games and domestic occupations of different kinds. These are of special value, as they enable the archæologist to form some conjecture regarding the manners, customs and religious beliefs of the ancient inhabitants of this part of Peru.

Although some of the pottery is in no wise superior to that found in many other parts of the country, one occasionally comes across specimens of a very high order of excellence. In some instances the workmanship is so artistic, and the scenes are so well depicted, that one is reminded of similar productions of the potter's art in ancient Greece and Etruria.¹

¹ After writing the foregoing paragraph, I was glad to find it corroborated

Interesting, however, as are the crumbling edifices of Chan-Chan and the countless objects that have been yielded by its extensive huacas, that which has made the old city, for centuries past, a center of attraction for the people of Trujillo, and for other parts of Peru as well, is the widespread belief that it contains concealed treasure of fabulous value. And there is reason for this belief, as the following story, which reads like a chapter from the *Arabian Nights*, will show.

In the year 1550, a cacique of Mansiche,—a pueblo adjoining Trujillo,—Don Antonio Chayhuac, who had received the waters of baptism and was a legitimate descendant of The Great Chimu, made known to the Spaniards a huaca near the palace of Chimu Canchu, on condition that a part of the treasures that might be found there should be used for the benefit of the Indians under his jurisdiction. In consequence of this information, Garcia Gutierrez de Toledo discovered, in the huaca which has since borne his name, treasures that rivaled those of Monte Cristo. According to Feyjóo de Sosa, the amount of gold reported by the discoverer amounted to about three-quarters of a million dollars; but he observes that there was a tradition that the amount secured was greatly in excess of this sum—“*fue excesivamente mayor el caudal que el que corresponde á los quintos.*”¹

Middendorf estimates Toledo's find at a million dollars more than the amount given by Feyjóo, while Hutchinson's calculations, based on the accounts found among the

by Mr. F. Hewitt Myring, who declares that some of the ceramic specimens found in Chimu “are so very beautiful that experts on the subject of pottery say that nothing finer has been seen from the days of ancient Greece to the present. This pottery proved, by its modelling and drawing, that long before we had any knowledge of art in Europe, in that country now called Peru, there existed an artistic, sensitive race, who wore elaborate clothing, who were well governed and were law-abiding; Peru, which to-day is to many of us a *terra incognita*, was one of the most civilized parts of the earth.” *The Geographical Journal*, p. 395, London, Oct., 1910.

¹ *Relacion Descriptiva de la Ciudad i Provincia de Trujillo del Peru*, por El Dr. D. Miguel Feyjóo, Madrid, 1763.

municipal records of Trujillo, make the sum total of the treasure found by Toledo almost four and a half million dollars in gold.¹

Unfortunately for the cacique of Mansiche and his people, the Spaniards failed to keep their contract and the Indians got nothing of this colossal pile of gold that had been collected by their forefathers. In the hope of securing something, the wily chief then told the Spaniards that he knew where there was concealed a similar, but much larger, treasure. So far, he declared, they had found only the *peje chico*—the little fish.² There was still, he averred, the *peje grande*—the big fish—which represented an amount of gold incomparably greater than that furnished by the *peje chico*.

Whether the Indian's story was true or merely a ruse to secure a part of the treasure to which he was entitled, the Spaniards made haste to secure the good will of the cacique, and the information he pretended to be able to give. They accordingly made up for the benefit of himself and his people a collection amounting to more than forty thousand dollars. He then pointed out the place where he said the treasure was buried.

Search for the *peje grande* was then begun without delay. The large huacas were honeycombed by excavators, but with little result—except possibly in the case of one Escobar Corchuelo, who, according to Calancha, secured no less than six hundred thousand dollars—until the latter part of the last century. Then a Chilian, Colonel La Rosa by name, described as “the most enthusiastic and persistent treasure hunter of Trujillo, where rummaging

¹ *Two Years in Peru*, Vol. II, Chap. XXVI. In a note to his translation of Cieza de Leon's first part of the *Chronicle of Peru*, p. 243, Clements R. Markham makes the amount of treasure taken from the huacas of The Great Chimu in the years 1566 and 1592 equal to £1,724,220—nearly \$9,000,000 of our money.

² The fish was an object of adoration among the Chimus, and, hence, the frequent occurrence among the ruins of Chan-Chan of objects of fish-like form.

for *tapadas*, or treasures, has been a passion" since the time of Toledo, began a quest for the fabulous "big fish" with all eagerness and fond anticipation of a gambler at Monte Carlo. In the beginning he was rewarded by discovering gold objects of various kinds, that netted him about thirty thousand dollars. The search for the *peje grande* now became a mania with him and he devoted the greater part of the remaining years of his long life to excavating huacas, but with no result except the loss of all the money he had gained by his first stroke of good luck, and the posthumous honor of having one of the huacas, in which he labored, named La Rosa.

It is now three and a half centuries since the cacique of Mansiche announced the existence of the *peje grande*, and yet, notwithstanding all the fruitless attempts that have been made to find it, and the fortunes that have been squandered in excavations which yield nothing but a few trinkets and a countless number of skeletons, the quest for this legendary treasure still continues with the same feverish activity as it did in the days of Toledo and La Rosa. Thousands have implicit faith in its existence, but where is it? That is what thousands of others, through long generations, have been trying to determine; what still others are trying to find out to-day. Even at the time of my visit some of the leading citizens of Trujillo had a crowd of excavators at work among the ruins of Chan-Chan, and, to hear them talk, one would think that the elusive "big fish" was finally within their grasp. Here, probably, more than anywhere else in the wide world, does one realize the truth of Pope's words,

"Hope springs eternal in the human breast."

Does the long-sought-for treasure really exist, or did the astute Don Antonio Chayhuac, knowing the cupidity of the Spaniards, invent the story in order to lure them into paying him the sum stipulated in the contract they had so shamefully repudiated? Who can tell? The story of the

peje grande may be like the one regarding the massive gold chain cast into the lake of Urcos, like the stories of untold treasures in Lake Titicaca, in the caves on the lofty flanks of Illimani, in the underground chambers of Cuzco, in the obscure recesses of the mountains of Ecuador. But whether true or false, it is highly improbable that there shall in the near future be any abatement in the faith and ardor which have ever characterized the treasure hunters of South America since the time of the conquest.

As I stood on the summit of one of the large teocali-like mounds that tower above the surrounding ruins, and surveyed the silent scene of desolation before me, my mind was besieged by the same host of questions that had so frequently assailed it while in the presence of other noted monuments of prehistoric Peru. I was standing, so I was told, on the very site of the palace of The Great Chimu, and had before me the evidence of a semi-civilization that probably long antedated that of the Children of the Sun. And, the Chimus, be it said, were as powerful and as much feared on the coast as were the Incas on the plateau, and their capital was, in the temporal order, as noted as was Pachacamac—the old Peruvian Delphi—in the spiritual. Within a stone's throw from me were the remains of *acequias* and reservoirs, by means of which, what is now a barren desert was converted into fertile fields and verdant gardens that supplied teeming myriads with the means of subsistence. The crumbling adobe structures below me were then hives of industry wherein were produced those textile fabrics, those objects of ceramic art, those ornaments of the goldsmith's skill, that reflect such credit on Chimu craftsmanship, and suggest so many puzzling problems to the archæologist and the ethnologist. Here men lived and loved for long centuries, many of them apparently enjoying a life of comparative affluence and luxury.

But what a contrast there is between the present and the past! "Let the reader imagine himself, for a moment withdrawn from the sounds and motions of the living

world and sent forth into this wild and wasted plain. The earth yields and crumbles beneath his foot, tread he never so lightly, for its substance is white, hollow and carious, like the dusty wreck of the bones of men. . . . Hillocks of mouldering earth heave around him, as if the dead beneath were struggling in their sleep." Not a sound is heard except the dull stroke of the *huaquero's* pick, as he feverishly continues among the mouldering remains of a departed race the eager search for gold that was begun by his ancestors four centuries ago. No living thing is visible except a frightened fox, as he escapes from his sepulchral burrow and scampers across the arid waste to another covert nearer the ocean's shore. And as the crimson sun slowly sinks beneath the distant Pacific wave "a dull poisonous haze stretches level along the desert, veiling its spectral wrecks in massy ruins, on whose rents the red light rests, like dying fire on defiled altars."

As we contemplate this weird scene of utter desolation and view the impressive ruins of the proud capital of The Great Chimu, and strive to correlate it with the romance of forgotten grandeur, the wonder and pathos of the unknown past, and endeavor to form a mental picture of its departed glory,

"We feel that Babel's tower could scarce surpass
In rude, wild majesty, this wondrous mass;
That far Chaldea's sons or Egypt's kings,
Sent their bold genius here on spirit wings.
For strange, between each nation, seems the tie
Of kindred creeds, of arts and modes gone by."

Who were the mysterious people who left behind them such imposing ruins and such evidence of material and industrial progress? Whence did they come? When did they reach this spot on the Rainless Coast? And, if they came from the Old World, how were they able to cross the broad waters that separate the Eastern from the Western Hemisphere? These are fundamental questions, I know,

but they are questions that always press for an answer when one is in the presence of those stupendous ruins that cumber the ground from the smiling valley of Anahuac to the bleak plateau of Bolivia. The attempt to answer any one of them is like essaying to solve the long-debated problem regarding the original inhabitants of America, a problem which no less an authority than the Marquis de Nadaillac declares to be "a profound mystery and probably forever insoluble."¹

If, in seeking an answer to the above questions, we were to confine our investigations to the Chimus alone, we could go back little farther than the concluding years of the reign of their last monarch, and could learn little more than what Garcilaso tells us about their conquest by the Incas, and what Calancha and Arriaga have to say about their customs and superstitions. The historian Balboa, it is true, refers to a tradition according to which the Chimus were descended from a people that came by sea on rafts from the north.² But aside from this vague and limited information, all else is mere conjecture, and notwithstanding the progress of archæology in Peru in recent years, our ignorance respecting this extraordinary people is almost as profound to-day as it was in the days of Pizarro.

If, then, we could not go farther afield than the realms of The Great Chimu for answers to the questions proposed, we might well subscribe to the conclusion of Nadaillac, and declare with the poet,

"Primeval race! their story who shall show?

They built, they reigned, they died—is all we know."

Fortunately, since the distinguished Marquis declared that "*Le problème des premiers habitants de l'Amérique*

¹ *Les Premiers Hommes et Les Temps Préhistoriques*, Tom. II, p. 95, Paris, 1881.

² *Histoire du Pérou*, Chap. VII, par Miguel Cavello Balboa, published by H. Ternaux—Compans, Paris, 1840.

reste un mystère profond et probablement à jamais insoluble," the progress of research along various lines and especially in comparative philology, has given us reason to hope that men of science shall eventually be able to penetrate the mystery that has so long enveloped the origin of the early inhabitants of Peru, and that, by so doing, they shall at the same time pave the way for the solution of numerous other problems regarding the American aborigines, which have engaged the attention of investigators ever since Columbus gave a new world to Castile and Leon.

It is not my purpose to weary the reader by a disquisition on topics that have been so often treated *ex professo* by men who have spent long years on the problem which Nadaillac pronounces insoluble, but a few words regarding some of the opinions that have been held and the trend of contemporary thought concerning this most interesting question seem to be required to complete what has already been stated respecting the monuments and peoples of the most fascinating part of South America.

It may be premised that a certain school of polygenists cut the Gordian knot by the bold assertion that the American race, like the nobles of Athens, is autochthonous, having sprung directly from the earth, and is therefore without any relation to the races of the Old World. Such is the contention of Morton, Nott and Gliddon, not to mention others who hold the same view.¹ But so far this theory, although not without supporters, still stands in the same category as the finding of a Scotch jury, "Not proven." The reader who desires information on the traditional view of the subject will find it admirably presented in M. de Quatrefages' masterly work, *The Unity of the Human Species*.

¹ *Crania Americana, or a Comparative View of the Skulls of Various Aboriginal Nations of North and South America*, Philadelphia, 1839; *Types of Mankind*, Chaps. IX and X, Philadelphia, 1854, and *The Races of Men and their Geographical Distribution*, New York, 1848. See also, *L'Homme Américain*, par Alcide d'Orbigny, Paris, 1839.

The number of books that have been written in defense of the various theories which have been evolved regarding the origin of the Indians would fill a large library, but most of these theories have long since been consigned to the limbo of fantastic hypotheses.

Montesinos, as we have already seen, tells us that Peru was first peopled by a colony from Armenia under the leadership of Ophir, the grandson of the patriarch Noah. Scarcely less curious is the view of the Dominican, Fray Gregorio Garcia, who resided for a number of years in Peru, and who, as early as 1607, published a ponderous folio entitled *Origen de los Indios del Nuevo Mundo é Indias Occidentales*, in which he devotes many chapters to the theory that America was populated by the lost tribes of Israel.¹ Those who hold this view base their opinion on the apocryphal narrative of Esdras, and pretend that when the Israelites were vanquished and led into captivity by Salmanasar, King of Assyria, ten tribes were separated from the others and betook themselves to unknown and distant regions. After journeying a year and a half and crossing a large body of water, they finally reached the land of Anian, which we are asked to believe was the part of the world now known as America.

The most remarkable thing about this seemingly preposterous theory is its extraordinary vitality and the number of eminent supporters it has counted even in recent times. Among these is Lord Kingsborough, who, in his magnificent work, *Antiquities of Mexico*, embracing nine volumes in elephant folio, has spent a princely fortune to prove that it is to the lost tribes of Israel that the New World owes its first civilization. The noted explorer, the Abbé Brasseur de Bourbourg, expresses his astonishment at the Jewish and Egyptian types he frequently noted among the Indians of Mexico and Central America.

¹ Cf. *Origen de los Indios del Peru, Mejico, Santa Fé y Chile*, por el Dr. Diego Andres Rocha, Oidor de la Real Audiencia de Lima, de la *Coleccion de Libros Raros y Curiosos que Tratan de America*, Madrid, 1891.

Among these peoples, he assures us, "the general character of the most ancient stock exhibits many features possessed by the races of ancient Palestine and Egypt. Here one observes the profile of the Jew, the Arab and the Algerian exactly like the types engraved on the monuments of Nineveh and Thebes. There is also a similarity of dress, manners and customs."¹

M. Castelnau, in his great work on South America, *Expédition dans les Parties Centrales de l'Amérique du Sud*,² tells of a Jew whom he met at Santarem, on the banks of the Amazon, who declared that, in the idioms which are spoken in the adjacent regions, there may be found more than fifty words closely resembling Hebrew words. Other travelers and writers have also spoken of the existence of Indians in the Cordilleras of Jewish origin, basing their conclusions not only on the language spoken by them but also on their various religious rites and customs which, we are assured, can be accounted for only on the assumption that these Indians are really of the seed of Abraham.³

Aside from what may be said of certain religious rites of divers Indian tribes, it may be confidently affirmed that there is no more truth in the purported finding of Hebrew words in the languages and dialects spoken in the Cordilleras and the basin of the Amazon, than there is in the belief, which so long obtained, that the peculiar language

¹ *Histoires des Nations Civilisées du Mexique et de l'Amérique Centrale durant les Siècles antérieur à Christophe Colomb*, par l'Abbé Brasseur de Bourbourg. Vol. II. p. 180, Paris, 1857.

² Tom. IV, p. 267, Paris, 1851.

³ *The Hope of Israel*, by Manasseh Ben Israel, Amsterdam, 1650, reprinted for the Jewish Historical Society of England, London, 1901.

Soledad Acosta de Samper contends that the Jews seen in Antioquia in the first half of the seventeenth century were some of the race that had been driven from Spain about the year 1500, and who had peopled this part of New Granada before the arrival of the Spaniards in *Tierra Firme*. *Memorias Presentadas en Congresos Internacionales que se reunieron en España durante las Fiestas del IV Centenario del Descubrimiento de America en 1892*. Chartres, 1892.

spoken by the inhabitants of Eten—a small town north of Trujillo, and formerly within the dominions of The Great Chimu—is a dialect of the Chinese.¹

But, notwithstanding all the errors into which explorers and savants have fallen through hasty conclusions drawn from fancied resemblances between the languages of the New and Old Worlds, it seems now that the first satisfactory answer to be received regarding the long vexed question of the origin of the American aborigines is to come from comparative philology. And it looks also as if the honor of solving this age-old problem is to redound in great measure, if not entirely, to South American philologists.

The first of these to attract the attention of scholars outside of his own country was Vicente Fidel Lopez, of Montevideo, who in his remarkable work, *Les Races Aryans du Perou*, endeavors to establish a connection between the Quichua language and the language of central Asia, and so successfully has he defended this thesis that there are not a few who are disposed to accept his conclusion as definitive. It is in substance as follows:—The languages, the theogonies, the legends, the arts, the industries, the science of the Aryans and the Quichuas prove the unity of the two races, who have for ages peopled and civilized the two great continents of which our world is formed.²

A second student who has long been engaged in the same line of research is a Peruvian, Pablo Padron, of Lima. In his monumental work, which is to embrace thirteen octavo volumes, several of which are already published, he undertakes “to demonstrate the Sumero-Assyrian origin of the Kichua languages, which are still spoken by the in-

¹ Raimondi dismisses this ill-founded belief in the following words: “De todas mis investigaciones resulta, que es absolutamente falso que los Chinos hablan en su lengua con los habitantes de Eten, y que se comprendan mutuamente Chinos y Etanos,” *El Peru*, Tom. I, p. 329.

² P. 341.

digenes of this country and Bolivia.”¹ How successful this industrious and enthusiastic investigator will be in his self-imposed task, remains to be seen. He appears to be very sanguine regarding the result of his researches, and if his labors should be crowned with success, the scholars of the world will be only too glad to accord him all the honor that such a signal achievement shall merit.

But even after a connection shall have been established between the language of the Incas and the language of the ancient rulers of Mesopotamia, there will be other interesting problems to solve, although not of such transcendent importance as that of the origin of the languages of the American aborigines. For the proof of a linguistic nexus between the languages of America and Asia will contribute much towards a complete demonstration of the unity of the various races of mankind, and will, at the same time, signalize a most notable advance in the science of anthropology.

When the first representatives of the human family appeared in Peru, it is impossible even to conjecture. But that it was many long ages ago, and probably long before the Christian era, appears beyond doubt. Leaving to others to determine the value of the speculations of Ameghino and Lehman-Nitsche respecting the early appearance of man in Argentina,² and reserving for the future the task of deciding the relationship between *Homo pampæus* of South America and *Homo primigenius* of Europe, who, we are asked to believe, walked the earth with the megalonyx and the palæotherium, and confining ourselves solely to the evidence of man's existence within the present boundaries of Peru, we are warranted in placing the advent of man in the land of the Incas at a date long anterior to that

¹ *Nuevos Estudios sobre las Lenguas Americanas-Origen del Kechua y del Aimara*, Tom. I, p. 1, Leipzig, 1907.

² *Notas preliminares sobre el Tetraprothomo argentinus* in the *Anales del Museo nacional de Buenos Ayres*, Tom. XVI, pp. 107, 242, 1907, and *Nouvelles recherches sur la formation pampéenne et l'homme fossile de la République Argentine* in the *Revista del Museo de la Plata*, Tom. XIV, pp. 193, 488.

given by Garcilaso for the appearance of Manco Capac and his sister-wife on the shores of Lake Titicaca.

A study of the ruins on the Andean plateau and along the Peruvian coast land affords incontestable evidence of the existence of several waves of migration. This fact, which has only recently received due recognition from men of science, is of itself sufficient to prove that the antiquity of our race in Peru is far greater than has hitherto been imagined.¹

The argument for man's antiquity, based on the monuments everywhere found in Peru, is confirmed by the existence of domesticated plants and animals.

De Candolle, referring to the age of cultivated plants, expresses himself as follows: "Men have not discovered and cultivated within the last two thousand years a single species which can rival maize, rice, the sweet potato, the breadfruit, the date, cereals, millets, sorghums, the banana, soy. These date from three, four or five thousand years, perhaps even in some cases, six thousand years."² When one remembers that some of the most important of these species are indigenous to America, the force of the argument in question will be manifest.

Among the domestic animals of the ancient Peruvians were the llama, the alpaca, the allko or dog, a species of guinea-pig, called the cuy, and a species of duck. Of these the llama and the alpaca are not known to exist in the wild state, and this fact, conjoined with the great variety exhibited in the colors of their fleeces, points to a very long period of domestication. And their ability to domesticate so many animals, it may be remarked, is not only an evidence of the antiquity of the aborigines of Peru, but also a test of their capacity for civilization. "The inferiority of the African, as compared with the Hindu, is demonstrated by the latter having domesticated the elephant, and made it the useful and hard-working companion of

¹ See Dr. Uhle's *Pachacamac*, p. 45 et seq.

² *The Origin of Cultivated Plants*, p. 457, New York, 1885.

man; while the former, during the thousands of years he has inhabited the African continent, has never achieved any such result, and has merely destroyed the elephant for the sake of the ivory.”¹

How the original inhabitants of South America were able to traverse the long distances which separated the Old from the New World is not our province to decide. That has been a matter of discussion since the discovery of America, and we are still destitute of positive knowledge regarding the subject. Without, however, assuming the existence of an Atlantis connecting Europe with the Antilles, or a strip of land bridging the Atlantic between Africa and Brazil, or a series of contiguous islands stretching across the Pacific, we can find in any one of a dozen theories, that have at divers times been propounded by various investigators, a plausible, if not satisfactory, explanation of the manner in which the inhabitants of the Old World were, in ages long past, able to reach the distant shores of the New.² Future investigators will doubtless clear up many difficulties still investing this interesting problem, and they may even be able to prove to a reasonable certainty the existence of several lines of migration followed by prehistoric man on his way from the Eastern to the Western Hemisphere. Until such certainty is forthcoming, we shall be content with that probability which is the guide of science as well as the guide of life.

¹ Markham, in the introduction to *The Travels of Pedro de Cieza de Leon*, p. XXIV, London, 1864.

² For the lovers of the curious, it may be stated that there are not wanting those who incline to the belief that the original home of our race was in the New, and not in the Old World, and who would see in *Homo pampacus* the common ancestor of mankind. Even Columbus was disposed to locate the Garden of Eden, somewhere in the continent, watered by the great Orinoco. *Following the Conquistadores up the Orinoco and Down the Magdalena*, Chap. II.

In this connection one may recall the theory of Brasseur de Bourbourg, who makes America the cradle of our race. According to this theory, the Old World was peopled from the New and it was from America that Egypt and Syria received their domestic animals, their arts, their industries, their hieroglyphics, and even their religious rites.

CHAPTER XVI

IN THE FOOTSTEPS OF PIZARRO AND ORSUA

In his *Historia del Peru*, which constitutes the third part of his unpublished work entitled *Miscellanea Austral*, Miguel Cavello Balboa, one of the early chroniclers of the New World, writes as follows: "When Pizarro arrived in the valley of Chimu he was greatly astonished at the grandeur and the beauty of the edifices which had been constructed by the ancient kings of this country. It was in this valley that Pizarro, in 1535, founded the city of Trujillo. From Chimu the Spaniards directed their course towards Caxamarca, where Atahualpa had been for fifteen or twenty days."¹

This statement regarding the route of the conquistadores during their march from Tumbez to Cajamarca does not, I know, accord with what other historians tell us regarding Pizarro's itinerary from the coast to the Andean plateau, and is quite at variance with the opinion expressed by Raimondi in his work, *El Peru*.² So diverse, however, are the opinions that have been entertained respecting the actual route of the Spaniards on their way up the western flank of the Cordillera, and so great is the uncertainty which still prevails concerning it, that no one is yet warranted in accepting any one opinion to the exclusion of all others. And until we have more information on the subject, we may believe with Balboa that Pizarro and his gallant band really did go as far south as the capital of The Great Chimu, before advancing towards Cajamarca, which

¹ In *Voyages Relations et Mémoires Originaux*, p. 313, publiés par Ternaux-Compans, Paris, 1840.

² Tom. II, p. 19 et seq.

then enjoyed the honor of being a kind of second capital of the great Inca empire.

It was early in the morning that I left Trujillo and the kind and hospitable people who had made my stay in the City of Liberty so delightful. My next objective point was Casa Grande, the center of the most extensive and most productive sugar plantation in Peru. I was accompanied by the superintendent of the railroad, who was kind enough to put a special train at my disposition, and the manager of the hacienda, whose guest I was to be during my sojourn in Casa Grande. The former was a genial and wide-awake American, from Wisconsin, and the latter a young and enterprising German, Mr. G——, who is recognized as one of the most progressive business men in the republic. Both of them were eager to have me see the famous Chicama valley, part of which has been noted since the conquest for its marvelous fertility—and they left nothing undone that would conduce to my convenience and pleasure. To both of them I am indebted for some of the most delightful days spent in the department of Libertad, and I shall always remember their courtesy and kindness with profound gratitude.

On our way to Casa Grande, which is but an hour by rail from Trujillo, I had an opportunity of inspecting the remains of the wonderful *acequias* that formerly watered the lands of The Great Chimú and that converted an arid desert into fertile fields and gardens adequate to furnish subsistence to the teeming thousands who dwelt in and around the great metropolis that stood on the site now occupied by the crumbling ruins of Chan-Chan. If we are to credit Montesinos, it was by severing these *acequias* that the victorious Inca Tupac Yupanqui was able to get possession of Chimú and force its inhabitants to acknowledge the supremacy of the Children of the Sun.¹

Quite near the road between Trujillo and Casa Grande are the remains of the great *mampostería*—reservoir—

¹ *Memorias Antiguas del Peru*, Cap. XXVII.

used by the Chimus to irrigate their lands and supply their capital with water. It was an immense work, and, as a feat of engineering, must deeply impress every one who examines its massive retaining wall. It is estimated that it was capable of containing nearly two billion cubic feet of water, and it would compare favorably with any similar work ever executed in the land of the Incas.

I was intensely interested in Casa Grande, as it shows what irrigation can accomplish on the rainless coast of Peru. Prior to 1873 this section of the Chicama valley had long been a barren desert, and the land was deemed to be of little or no value for cultivation. No one then dreamed that it would, in the near future, contain the largest and most prosperous sugar plantation in Peru.

But shortly before this time, Herr Ludwig Albrecht, a keen, enterprising son of the Fatherland, like so many of his countrymen who have achieved distinction in commerce and industry in South America, made a visit to this part of the republic. Finding evidence that the valley had at one time been under cultivation, and desirous of learning how vegetation could have been supported in such a rainless region, he determined to discover the irrigating canal that must have supplied the necessary water for such an extensive territory. He soon came across traces of it, and, continuing his search, he was finally rewarded by finding the point in the river where its waters had entered the long-neglected and long-forgotten canal. He then proceeded without delay to buy up immense tracts of land along the line of the old *acequia*, and was, fortunately for himself, able to make his purchases at a nominal price. Having secured all the land he desired, he restored the canal, which probably dated from the time of the Chimus, to its pristine condition, and almost before his neighbors were aware of his purpose, he had a large part of the long-abandoned valley of Chicama blooming as a rose in June.

To-day the plantation, which was begun a few decades ago under such peculiar circumstances, is not only the larg-

est in Peru, but also—considering that the sugar mills and the plantation belong to the same company—the largest in the world. Together with the other haciendas in the valley, it produces more sugar than the entire island of Puerto Rico, and the output is of such excellent quality that it finds a ready market. Most of the first grade goes to Chile, while the third and fourth grades are shipped to England, where the better kind is used in the production of porter, and the poorer kind is employed in the manufacture of cigars.

The climate of the Chicama valley reminds one of Homer's Elysium, which was located in the western part of the earth near Ocean—a place where there is neither snow nor cold nor rain, and which is "always fanned by the delightful breezes of Zephyrus," or of Olympus, as pictured in the *Odyssey*,

". . . Which never storms
Disturb,¹ rains drench, or snow invades, but calm
The expanse and cloudless shines with purest day."

Owing to this warm and equable climate, and the fertility of the soil, the cane in this favored region is ready for cutting only nineteen months after it is planted. This is much less time than is usually required for maturity elsewhere. Then the quantity of sugar in the cane is very great compared with that obtained from cane in many other parts of the world. The amount of sugar in the juice runs as high as twenty per cent., while the proportion of sugar to the weight of the cane varies from eleven and a half to twelve and a half per cent. The cane is cut every nineteen months and the yield in sugar averages six tons to the acre. The actual cost of the best quality of sugar, when the season is favorable, does not exceed one dollar gold per hundred pounds.

In the cultivation of the cane, and in its conversion into

¹ So light are the variations of air-pressure in this part of Peru that the changes indicated by the barometer are little more than nominal.

sugar, all the latest and most approved methods are employed. The machinery is thoroughly up-to-date, and in charge of experts and chemists who have reduced every phase of the sugar-making industry to a system that cannot be surpassed.

The total population of Casa Grande, and its dependent haciendas, is eleven thousand, nearly one-fourth of which is engaged in the mills or on the plantations. The daily wage of the employés varies from fifty cents to \$1.20 in addition to which each one is provided with free lodging, and receives a daily allowance of one pound of meat and a pound and a half of rice. The *Sociedad Agrícola, Casa Grande*—so this corporation is called—provides nine schools for the free education of the children of its employés. The two schools in the town of Casa Grande, which I visited, are in the hands of excellent teachers and the success of their work is manifest as soon as one enters the class-rooms. These two schools, it may be observed, are named *Coronel Bolognesi* and *Almirante Grau*, in memory of two of Peru's favorite heroes.

The company has two doctors on its pay-roll, who devote all their time gratuitously to the care of the workmen and their families. Shortly before my arrival, the inhabitants were threatened with the bubonic plague, but thanks to the prophylactic measures adopted, which were in keeping with the latest advances of medical science, the threatened ravages of the much-dreaded malady were avoided, although the number of victims claimed by the plague at points not far distant, where such precautions had not been taken, was as large as its devastations were frightful.

At first sight there seems to be something Utopian about the management of the affairs of the company, especially in its dealings with its employés. But such is not the case. Everything betokens the hard common sense of the German proprietors and managers whose efforts in building up their enormous business have been crowned with such signal success. There is, indeed, something patriarchal in

the relation between the manager of Casa Grande and the families living on the vast estate under his direction. Or probably it would be truer to say that this relationship is something like that which, in times long past, obtained between the Inca and his subjects. Be that as it may, all those who are connected with the company, especially the peons and their families, are well cared for, as one soon learns who visits the people in their homes. All seem contented and happy. There are no strikes and none of those clashes between capital and labor that are so frequent in the United States and Europe. The rule governing the workmen, while engaged in the large factory at Casa Grande, may be summed up in the words over the main portal—*Tace, ora et labora*—observe silence, pray and work.

The dividends of the company for years past have amounted to twelve per cent.; but, if the trust, which is in contemplation, can be formed, it is confidently asserted that the fortunate stockholders will receive fully thirty-five or forty per cent. annually on their investment.

I have dwelt somewhat at length on Casa Grande because it is a striking object lesson of what can be accomplished in a few years by well-directed effort and intelligent enterprise. In what, only a generation ago, was but a solitary waste of parched earth and hills of sand there is now a smiling oasis and one of the most flourishing communities in the entire republic.

While contemplating the transformation that has been effected by the genius and energy of one man within the space of a few years, and observing the traces of the agricultural achievements of the indigenous races before the conquest—traces seen in ruined acequias, reservoirs and *andenés* still existing on plain and mountain side—I found it easy to believe the accounts, often pronounced incredible, regarding the teeming population that formerly made their homes in what is now a desert coast-land or an arid plateau, and it was no longer difficult to conceive how

the capital of the Chimus could number a hundred thousand souls.¹

No better illustration could be found in Peru or elsewhere of the benefits accruing from the reclamation of neglected territory or from the conservation of national resources. I do not mean by this to say that Casa Grande is the only place where irrigation has been successfully introduced in Peru. Far from it. Hundreds of thousands of acres are now irrigated in the valleys of Nasca, Chira, Lomas, Rimac and in other parts of the coast-land. And the remarkable fact is that much of this land has been reclaimed by restoring the old canals of the Incas and other indigenous tribes.

But the amount of land so far brought under cultivation is but a small part of that which is susceptible of irrigation. According to investigations made by experts of the United States Geological Survey and Reclamation Service, there are nearly three million acres of land along the coastal region of Peru, that is now a barren desert, which can be converted into productive farms and gardens by means of irrigation canals, or simply by restoring the acequias that were built by the Peruvian indigene centuries ago, some of which, surprising as it may seem, are yet in a comparatively good state of preservation.

In no country in the world, not in Mexico nor in Egypt nor in Mesopotamia, where the watering of the soil received such careful attention, was irrigation carried to such a state of perfection as in the land of the Incas, and in no part of the globe, not even in China or Japan, was there

¹ According to Garland, *op. cit.*, pp. 82-83, the present population of Peru is about three and a half million inhabitants. Of these, fifty per cent. are Indians, fifteen per cent. whites, mostly of Spanish origin, two and a half per cent. negroes, one per cent. Chinese and Japanese and thirty-one and a half per cent. mestizos, chiefly of Indian and Spanish descent.

P. Ricardo Cappa, his *Historia del Peru*, Lib. I, Appendice III, estimates the population of the Inca Empire under Huascar at four millions, at most. He agrees, however, with Humboldt, that in "speaking of the population existing in America before the conquest is like speaking of the populations of ancient Egypt, Persia, Greece and Latium."

ever a greater husbanding of the national resources than there was throughout the length and breadth of the vast dominions of the Children of the Sun. The people in the United States, especially those who live in the Rocky Mountain region, have much to learn from them, and the sooner they profit by the lessons taught by the Peruvians of long ago the sooner will they see the vast wilderness of sand and sage-brush that extends from the Columbia to the Rio Grande transformed into broad grain fields and extensive orchards of untold value and productiveness.

I spent two days in and about Casa Grande and enjoyed every moment of the time. When I prepared to depart, the charming and hospitable family of my good host gently expostulated with me for making my visit so brief. "We had hoped, when you arrived," one of them was kind enough to say, "that you would give us an opportunity of getting acquainted with you, but the first greetings are scarcely over when you make haste to leave us." They all insisted that I should make them a longer visit the next time I came to Peru, and on my agreeing to do so, they all joined in a cordial *adios; hasta otra vista*—Good-by; until we meet again.

"*Le pondré á Ud en Cajamarca*"—"I will deliver you at Cajamarca," said the good-natured prefect of Trujillo, as he bade me farewell, "and I have no doubt that the prefect of Cajamarca will see to your safe arrival in Chachapoyas."

The escort he had selected for me—a gallant young lieutenant and a private—were promptly on hand at Casa Grande at the hour set for my departure. They had brought the necessary pack-mules for my baggage, and the saddle horses that they themselves were to ride. My own mount, which was provided by my ever-thoughtful and generous host, was a splendid, white mule that was used to traveling in the sierras, and exceptionally sure-footed, even along the steepest and most dangerous paths. He was, without question, one of the most intelligent beasts of his

much-abused race I ever saw, and was so gentle that a child could have ridden him in safety. Like a favorite white mule I once had in Egypt, he could keep up a fine, easy, ambling gait for hours at a time, and seemed to be as fresh and vigorous at the end of the day's journey as he was in the morning after a good night's rest. I was indebted to my kind host of Casa Grande for many favors, but for none more than for the splendid animal that carried me up the steep declivities of the western Cordillera.

Although I took leave of his family at Casa Grande, Mr. G—— insisted on accompanying me to Sausal, a flourishing town about twenty miles distant, but which is likewise a part of the company's property. Here his *administrador*, being advised of our arrival, had a delightful luncheon prepared for us, to which every one did full justice. Thence we went together to Jaguey, some fifteen miles further, where we arrived at two o'clock in the afternoon. Here it was that the noble, whole-souled Mr. G—— bade us a God-speed, in words so touching that I felt I was leaving a lifelong friend.

I had now gotten away from steamers and railroads. Before me was a long journey of nearly a month on mule-back over a mountain trail, and most of it through a very sparsely settled country. But this, far from being a deterrent factor, appealed to me as one of the most attractive features of the trip. I was now about to gratify another wish of my youth—a visit to Cajamarca and a ride from the Pacific to the Amazon.

"I shall have to rough it somewhat," I said to myself, "but then I shall be off the beaten track, and shall come in contact with people who have not been spoiled by strangers and tourists. I shall be able to commune with Nature in her most beautiful and sublime manifestations and shall have an opportunity of studying such marvels of sky and mountain and forest as may be seen in but few regions of the globe. With such surroundings, I shall not miss the comforts and luxuries of our modern metropolises."



A TAMBO IN THE ANDES.



SCENE ON OUR TRAIL IN THE ANDES.



Our objective point for the day was Cascas, a small town about ten leagues distant in the foothills of the Cordilleras. Our path was through an arid district where the chief vegetation was composed of a few scrubby trees here and there, and a large number of representatives of the cactus family. The most notable among these were certain *cerei*, whose immense size and long, candelabra-like branches remind one of the giant cactus of Arizona.

After traveling about four hours, we found ourselves on an elevated projection from the Cordillera, when, lo! there suddenly appeared before us one of the most perfect and brilliant rainbows I had ever witnessed. "*Esto es buen pronostico*"—"This is a good omen," said the young officer of Spanish descent who was with me. "You are going," he said, addressing me, "to have a safe and pleasant journey."

But his companion, an Indian from the Lake Titicaca basin, was not so enthusiastic about this beautiful apparition in the heavens. What was the reason? Was he indifferent to such a gorgeous spectacle, or did he secretly entertain the view of his Indian ancestors respecting this, to them, mysterious phenomenon.

Among the Aymaras the rainbow—*Kurmi*—is regarded as a fetish—*achachila*—and in some places the Indian mothers forbid their children to gaze at it, lest it kill them. To the old Quichua Indians the rainbow—*cuychu*—was something sacred—*huaca*—both because of the beauty of its colors and because they knew that this beauty was derived from the sun. For this reason, Garcilaso informs us, the Inca kings adopted it for their arms and for their device. But, like the Aymaras, the Children of the Sun had a certain dread of the rainbow, for, "owing to the veneration they felt for it when they saw it in the air, they shut their mouths, and put their hands over them, for they said if they exposed their teeth they would loosen and decay."¹

¹ Garcilaso, *Commentarios Reales*, Cap. XXI.

Padre Cobo tells us that the subjects of the Incas considered it an evil omen—presaging death or some dire calamity—when they saw the beautiful but mysterious cuychu whose appearance always inspired them with awe. “They revered it so highly that they dared not look at it, or if they did, they would not presume to point the finger at it, believing they would die, if they should do so. The place where the bow appeared to touch the earth they hold to be something frightful, believing that there was there some *huaca*, or other thing to be feared or revered.”¹

Did my Indian companion inherit any of these beliefs from his ancestors in Collasuyu? I suspect that he did, but, although he was usually quite talkative, he chose to be non-communicative on this particular subject. Probably he thought it unworthy of a soldier to acknowledge fear of what is still, as in the days of the Incas, an object of superstitious dread among many of his race.

A short distance from where we first saw the rainbow, we faced towards the west to take a last view of the Pacific. The day following it would be out of sight, and we should not again have an opportunity of admiring its vast and tranquil expanse.

Never shall I forget the gorgeous picture that burst upon my ravished vision at that moment. If “heaven’s ethereal bow,” spanning with its bright arch the glittering peaks of the Cordilleras had before been a source of ineffable delight, the glory of the setting sun, now slowly sinking beneath the ocean wave, that trembled as it glowed, was like a vision of the enraptured Dante as he journeyed through Paradise.

I had witnessed many wonderful sunsets in various parts of the world, but never one that was comparable to this in color and effulgence. I recalled one seen from a mountain in Greece and another viewed from a hill in Judea, that, at the time, I thought could not be rivaled. The sun-

¹ *Historia del Nuevo Mundo*, Lib. XIII, Cap. XXXVIII, publicada por primera vez por D. Jimenez de la Espada, Sevilla, 1893.

set enjoyed shortly after crossing the equator and described in a preceding chapter, I considered, while gazing at it, as absolutely matchless. But my last view of the great South Sea will always be associated in my mind with the most magnificent exhibition of light and cloud effects that it seems possible to conceive—an experience that may not befall even the most fortunate more than once in a lifetime.

The clouds in question were those of the highest region of cloudland,—the region of the cirrns, “that exclusively characterized by white, filmy, multitudinous and quiet clouds arranged in bars, or streaks or flakes.”

The effects produced on the clouds of the lower regions of the atmosphere are often marvelous. “But it is a widely different thing when Nature herself takes a color fit, and does something extraordinary, something really to exhibit her power. She has a thousand ways and means of rising above herself, but incomparably the noblest manifestations of her capability of color are in the sunsets in the high clouds. I speak especially of the moment before the sun sinks, when his light turns pure rose-color, and when the light falls upon a zenith covered with countless cloud-forms of inconceivable delicacy, threads and flakes of vapor, which would in common daylight be pure snow-white, and which give, therefore, fair field to the tone of light. There is then no limit to the multitude, and no check to the intensity of the hues assumed. The whole sky from the zenith to the horizon becomes one molten, mantling sea of color and fire; every black bar turns into massy gold, every ripple and wave into unsullied, shadowless crimson, and purple, and scarlet, and colors for which there are no words in language and no ideas in the mind,—things which can only be conceived while they are visible,—the intense hollow blue of the upper sky melting through it all,—showing here deep, and pure, and lightless; there, modulated by the filmy, formless body of the transparent vapor, till it is lost imperceptibly in its crimson and gold.”¹

¹ Ruskin, *Modern Painters*, Part II, Sec. II, Chap. II.

When one recalls the notions formerly entertained by the subjects of the Incas regarding the beneficent action and potent influence of the sun, and recollects the militant character of their victorious conquerors, can one, in presence of such a sunset as that just described, be surprised that the Children of the Sun should address to their father petitions like the following?

“O Sun! Thou who art in peace and safety, shine upon us, keep us from sickness, and keep us in health and safety.

“O Sun! Thou who hast said, let there be Cuzcos and Tampus, grant that these thy children may conquer all other people. We beseech thee that thy children, the Incas, may be conquerors always, for this thou hast created them.”

We turned reluctantly from the contemplation of this magnificent spectacle and pressed onwards towards Cascas, which was still several leagues distant. There was no moon to illumine our path and the prospect of traveling along a narrow trail near deep ravines, and on steep mountain sides, when we had to trust solely to the instinct of our mules to preserve us from danger and accident, was far from reassuring.

We had been told by our *arriero* that we should arrive at Cascas by six o'clock, but it was now past that time and the shades of night were falling fast and thick. We then realized as we had been so often forced to realize in the Cordilleras of Colombia, that one can rarely trust one's *arriero* when there is question of time or distance. His ideas on both these subjects are usually as vague as they are untrustworthy. For if one inquire the distance to a certain place, no two *arrieros* will give the same answer. One reason for this is doubtless because they have no fixed standard of measurement.

In Peru, as in other Spanish-American countries, the unit of distance for the traveler is the *legua*—league. But the league, as used in Andean lands, is a most elastic term, and

varies greatly according to places and circumstances. In Peru it varies from four thousand meters to the geographic league, which is more than a third longer. On a level plain it is usually estimated at five kilometers, while in the sierras it is but four kilometers. Indeed, as ordinarily reckoned, the league is rather a measure of time than of distance.

Thus in *la Costa*—the coast-land—a good horse is supposed to average two leagues of five kilometers each, per hour. This is the equivalent of six miles. In the interior of the country the same animal will not make more than two leagues of four kilometers each. A mule at the ordinary pace—*paso llano de camino*—requires an hour and a half to traverse this distance. Ordinarily, however, the traveler who is accompanied by pack-mules cannot expect to cover more than one league an hour, which means two and a half miles where the country is broken and three miles where it is level. We always considered ourselves fortunate if we could average three miles an hour. It was sometimes considerably more, but frequently much less.

Peruvians ordinarily divide their country into three distinct regions, *la Costa*, *la Sierra* and *la Montaña*. *La Costa* embraces a strip of territory extending from the Pacific to a line on the western versant of the Maritime Cordillera, fifteen hundred meters above sea level. The *Sierra* comprises the region between fifteen hundred and thirty-five hundred meters in altitude. It corresponds to the *tierras templadas*—temperate lands—of Colombia and Mexico. Here the white race finds a congenial home and the vegetation of our northern clime has a propitious habitat. *Montaña* in Spanish signifies “mountain,” but in Peru and Colombia, by a strange misuse of language, it means “forest,” and is used to designate all the little-known country from the eastern versant of the Andes to the boundaries of Bolivia and Ecuador and to the *selvas* of Brazil. The region above forty-five hundred meters is known as the *puna* and corresponds to the *paramo* of

Colombia. It is the narrow zone of winds and snow-storms, where the Indian shepherd watches his hardy flocks and where the traveler must often struggle to avoid succumbing to the arctic blasts that frequently prevail in these inhospitable regions. In addition to these three zones the general appellation of *Cordillera*—which, however, has no connection with the special term “Cordillera” employed to designate the western chain of the Peruvian mountains—is often applied to the snow-capped peaks and Alpine heights which are never scaled except by some daring explorer or professional mountain climber.

Writing of the varied territory of Peru, Raimondi, the distinguished Italian geographer and naturalist, who has contributed so much to our knowledge of this interesting republic, declares that, “it possesses, in the sandy wastes of the Costa, the arid deserts of Africa; in the broad Punas, the monotonous steppes of Asia; in the elevated summits of the Cordillera, the frigid regions of the poles, and in the dense forests of the Montaña the active and luxuriant vegetation of the tropics.”¹

It was nearly ten o'clock at night when we reached Cascas, tired, hungry and thirsty. The greater part of our journey had been through an uninhabited desert and we were not only unable to secure food of any kind, but unable to obtain even a drink of water. At one place we passed a small hut, where an Indian woman had some fresh *chicha* for sale, but, although my companions were glad to find here their favorite beverage, I must confess that I should much have preferred a draught of pure water.

We went directly to the governor's house, who cordially invited us to be his guests for the night. After doing full justice to a frugal repast consisting of boiled eggs, bread and cheese and some good coffee, we lost no time in seeking much needed repose.

Early the next morning we were on our way to Contumazá. The day's experiences, and the scenery along the

¹ Op. cit., Tom. I, p. 6.

route, were little more than a repetition of those of the preceding afternoon. With the exception of a few wooded valleys, there was the same barren waste, relieved by an occasional agave or cactus, the same absence of human habitations and industrial activity. Now and then, it is true, we met a solitary wanderer astride a patient mule bound for some village in the dim distance, or a silent Indian going to or from the nearest market town. Otherwise the events of the day could be expressed in two phrases, frequently in the mouth of our arriero—*cuesta arriba* and *cuesta abajo*—up and down the ever-rising spurs of the Cordillera.

While traversing these treeless areas, especially along the water courses, where extensive forests at one time existed, and where forestry is still possible, we were reminded of the wise provisions made by the Incas for the preservation of their *moyas*—woodlands—and which commanded, shortly after the conquest, the unqualified admiration of such a keen observer and accomplished statesman as Polo de Ondegardo. In his report on the part of the administration of the Incas, which concerns forest conservancy, he declares that “the greatest benefit that his Majesty could confer on the Indians, next to their conversion, would be to confirm the same order established by the Incas; for to frame new laws would be an infinite labor.”¹ This observation is as true to-day as when it was first penned by the distinguished licentiate three and a half centuries ago.

So effectually concealed at the bottom of a deep gorge that one cannot see it until one is actually standing on the brink of the overhanging precipice, lies the picturesque little town of Contumazá, the capital of a sub-prefecture. Here we arrived a few hours before sunset, and were made welcome by the hospitable sub-prefect—a man under thirty years of age—and his estimable spouse, who had already

¹ *Narratives of the Rites and Laws of the Incas*, p. 165, translated from the original Spanish manuscripts by C. R. Markham, and printed for the Hakluyt Society, London, 1873.

presented her lord with ten bright and healthy children.

These good people, it was manifest, were not believers in race suicide, and the same may be said of the Peruvians generally. Everywhere one will see large families among the poor as well as among the rich. How the poorer classes manage to eke out an existence with so many depending on them was often a matter of surprise to me. But during all my journeyings in Peru, I found but few beggars and, although there were often evidences of extreme poverty, I found far less suffering among the indigent than I have frequently witnessed in the crowded cities of Europe.

Contrasting the women of Peru with his own countrywomen, the English traveler, Enoch, expressed himself as follows: "The deeply religious practices of the women of Spanish-America inculcate a strong sense of refinement; vulgar women, such as the Anglo-Saxon type produces, are unknown in Spanish-America. The upper class is refined and proud; the lower, modest and respectful. Also the condition known as 'race suicide' obtains no foothold in these communities, nor is it likely to do so whilst the women remain influenced by this (the Catholic) religion."¹

Our short stay in Contumazá, although brief, was, thanks to the exceeding kindness of the sub-prefect and his estimable family, in every way most delightful. As they bade me farewell they all asked me to make their house my

¹ *The Andes and the Amazon*, p. 157, London, 1908. Similar statements regarding the Peruvian women are made by Hutchinson and Stevenson, both of whom spent many years in South America and had an opportunity of becoming acquainted with the greater part of the continent. The latter, in his work, *A Historical and Descriptive Narrative of Twenty Years' Residence in South America*, Vol. I, p. 390, does not hesitate to assert that "Chastity is more common and infidelity more uncommon among the Peruvians than in most countries of the Old World."

The opinions of Stevenson and Hutchinson, who occupied high official positions in various parts of Spanish-America, and were, therefore, able to secure exact information respecting the moral condition of the people with whom they lived so many years, should silence the slanderous reports put in circulation long ago, and still repeated, by such writers as Baxley and Dabadie as a result of their hasty visits to the countries which they so grossly misrepresented.

home the next time I should visit their town. "*Aquí*," said the father, "*está su casa con toda franqueza.*"

When we left Contumazá, our arriero assured us that we should reach the hacienda of Namas—where we purposed passing the night—by sunset, at latest. But, although we made as good speed as the mountain trail would permit, we soon discovered that the distance to this point had been greatly underestimated. We did not get our *desayuno*—breakfast—until long after midday, but when we did get it we felt more than repaid for the delay. It was at a small hacienda, called Chanta, where dwelt a kindly half-caste family. Immediately after our arrival, the mistress of the house requested her eldest son to kill a brace of spring chickens and a fat lamb for us. These were no sooner brought in than the mother and daughters proceeded to the preparation of our repast. While they were thus occupied, I discovered that the father of the family was prostrate with malaria, and through lack of the necessary medicines, had been quite ill for several weeks. I then shared with him the contents of my medicine case, and was delighted to find that I had just the remedies that his malady required.

Considering the circumstances, our *desayuno* was quite a sumptuous affair, and I could not but admire the skill of the cooks in serving us so delightful a repast in so short a time with culinary utensils so simple as those at their command. I cannot, however, say that I was surprised, for I frequently on the Orinoco and the Meta had had ocular demonstration of what the Indian or half-caste housewife is capable of accomplishing on short notice, with the most primitive appliances and with nothing but three stones in lieu of a stove.

When I came to pay the mother for our breakfast, she would not accept a penny. I insisted, but still she would take nothing. "Why not?" I asked. "I prefer to pay you for your hospitality." "You have already more than paid me," she said. "You have given my poor sick husband

the medicine he so much needed, and that is far more to us than money. "*Dios guarde á Ud y feliz viaje*"—"May God protect you and may you have a happy journey." And thus, for a trifling act of kindness, we had the gratitude of these humble folk in the desert and the blessing of the mother to cheer us on the long journey still before us.

After a brisk ride of a couple of hours we came in sight of Ñamas, gleaming through such clear atmosphere that it seemed not more than a gunshot from where we stood. But it was on the flank of a mountain on the eastern side of a deep valley or rather a profound cañon—at the bottom of which nestled the quaint and tranquil little town of Magdalena.

"*Mucha bajada*"—"a steep descent," ejaculated our arriero, as we proceeded to descend the narrow, zigzag trail that led down the precipitous mountain side. He was right. There was a drop of more than three thousand feet from the spot where we then were to the impetuous waters of the Rio Magdalena, that coursed along the dark, abysmal depths below. So deep is this rocky gorge that it reminds one forcibly of the Grand Cañon of the Colorado, and so early in the day does the sun disappear from the view of the inhabitants of the Magdalena valley that the western declivity of the mountain is here known by the expressive epithet, *Quitasol*—the sun-obscurer.

The descent of the *bajada* was long and tedious and extremely trying to both mount and rider. For, paradoxical as it may appear at first sight to one who is not familiar with traveling in a broken country, the descent of a mountain, especially if it be very precipitous, is much more arduous to beast and rider than the ascent.

As we slowly wended our way down the steep, rugged path in the rapidly-gathering gloom, I recalled Virgil's words,

"Facilis descensus Averni,
Sed revocare gradum superasque evadere ad auras
Hoc opus, hic labor est,"

and compared them with a sentence of Poe's in *The Purloined Letter*. "It is all very well," writes the author of *The Raven*, "to talk about the *facilis descensus Averni*, but in all kinds of climbing, as Catalani said of singing, it is far more easy to get up than to get down." This statement is particularly true of mountain climbing, when one is on the back of a struggling horse or half-exhausted mule.

Before we reached the rickety bridge that crosses the Rio Magdalena we were enveloped in Cimmerian darkness. We could not even see our mule's ears, much less the path that was to take us to our destination. Then again, as it had happened so often before, while traveling in the Cordilleras, I was obliged to trust myself to the peculiar instinct of my faithful animal, who seemed to keep to the path as if guided by a sixth sense.

After crossing the river, we soon arrived at the town of Magdalena, but instead of stopping there, as my arriero wished, I determined to push on to Ñamas, as had been planned on our departure from Contumazá. The undertaking, however, was far greater than I had anticipated. For Ñamas, that early in the afternoon had seemed so near to us, was still nearly two leagues distant and high upon the mountain side.

Even after we had emerged from the cañon, through which the river flows, the impenetrable darkness still persisted. The sky was now so obscured by clouds that not a single star was visible. But I had confidence in my mule and was satisfied that he would keep to the path. He was sure-footed and never stumbled and why should I be anxious? On the contrary, why should I not enjoy this part of the journey as well as any other part?

And, notwithstanding apparent drawbacks, I did enjoy it, and enjoyed it immensely. I enjoyed the silence and the solitude, the balmy atmosphere and the delicious zephyrs that played about my tired frame. And I enjoyed the thousands of fireflies that winked and darkled on every

side and reminded one of the Elves of Light that, according to the Edda, have their home in the Alfheim.

What was even more remarkable about these luminous insects than their vast number, was the intensity of the light they emitted and the length of time their luminosity persisted. They seemed even brighter than the West Indian Cucujo—*Pyrophorus noctilucus*—of which Peter Martyr writes that they shine so brightly, that when the inhabitants “goo any iourneys in the nyght, the beare summe of these woormes made fast abowt theyre fiete and heade, in such sorte that he that shoulde see them a farre and ignorant of the things, woulde bee greatly astonished thereat.”¹

Indeed, if we are to credit Bernal Diaz, it was these phosphorescent beetles that materially contributed to the victory of Cortes over Narvaez. For “these wandering fires, seen in the darkness of the night, were converted by the excited imaginations of the besieged, into an army with matchlocks.”²

This is not a solitary instance of the Cucujo as a military auxiliary, for we are told that they once caused the retreat of the British troops as they were preparing to attack the Spaniards. “When Sir John Cavendish, and Sir Robert Dudley,” so the story runs, “first landed in the West Indies, and saw at night an innumerable number of lights moving about, they fancied that the Spaniards were approaching with an overwhelming force, and hastily re-embarked before their imaginary foe.”

These extraordinary occurrences, in which the firefly played such a prominent rôle, are even more remarkable than the salvation of Rome by cackling geese, or the defeat of an army of nine thousand men under Penn and Venables, in their attack on Santo Domingo, in 1692, by a large number of clattering land crabs, which were mistaken by

¹ Eden, *The First Three English Books on America*, p. 241, edited by Edward Arber, London, 1895.

² *Verdadera Historia de los Sucesos de la Conquista de la Nueva España*, Cap. CXXII.

the English for advancing Spanish lancers, "whose galling onset they had experienced the day before."

While admiring the coruscations of these strange insects, which hold within their frail organisms the secret which men of science have so long essayed to discover—the production of light with no appreciable loss of energy—and musing on the great changes in the world's events, that are sometimes occasioned by the most insignificant agents, I was slowly but surely approaching the goal of the day's journeying. At the long last, after being twelve hours in the saddle, we sighted a faint light some distance ahead of us, which we soon recognized was not from a firefly but from a lamp or a candle in our *hotelito*—little hotel—in Namas.

I was too exhausted to partake of a dinner that the kindly patron proceeded forthwith to prepare for us. Leaving my valiant mule to the arriero, with instructions to give him an extra supply of alfalfa, I took a cup of chocolate and a piece of bread, and then threw myself on a tidy little cot in a cozy room and was soon in the land of dreams.

When I awoke the following morning, shortly before sunrise, I felt quite refreshed, and was soon ready to continue my journey. Just then my young lieutenant approached me with a salute to apologize for something which I did not know had occurred. He had dropped behind me on the road the night before, and as he had not arrived before I retired to rest, I took it for granted that he would reach the hotel shortly after I did. But such was not the case, as I then learned with great surprise.

"Pardon, Señor, for not reporting here last night. But it was simply impossible for me to do so. My mule gave out when we reached Magdalena, and positively refused to carry me a step further. And I was so *rendido*—worn out—that I was quite unable to walk the long distance up the mountain to Namas. For this reason I was forced to spend the night in Magdalena, whence I have just come. Both my mule and I still feel the effects of yesterday's long

ride, but I think I feel it more than the mule. It was a terrific journey and I did not understand how you, with your delicate physique, were able to endure such an arduous journey."

I was then confirmed in a belief that my previous experience in the Cordillera had taught me—viz.: that the race is not always to the physically strong, nor to the possessors of health and youth. I was nearly old enough to be the young officer's grandfather and was far from having either his health or his strength. And yet he had less endurance than I had. The reason of this, I am inclined to believe, from many observations subsequently made, was that I ate less food than my companions and ate only what I was able to digest, while some of them, I have reason to believe, overloaded their stomachs and suffered the consequences, without knowing the cause. Overeating is always bad, but especially so in high altitudes, and particularly when one is unaccustomed to them.

We had not proceeded far on our way, after leaving Ñamas, when our arriero sidled up to me and said, "*Mucha cuesta—mucha—mucha*," by which laconic expression he wished me to understand that we had before us a long and a very steep climb. We did not have to wait long before verifying his statement. So steep, indeed, was our path at times that our mules had to stop frequently for a brief rest. Besides, as we were rapidly approaching the *cumbre*—crest of the Cordillera—they began to feel the effects of the rarer atmosphere, and progress was proportionally slower.

In marked contrast with the arid and desolate country through which we had passed since our departure from the Chicama valley were the fertile and verdant lands which now burst upon our view. Flocks and herds were quite numerous and comfortable human habitations, occupied mostly by Indians and mestizos, were frequently passed.

On approaching one of these dwellings, our attention was suddenly arrested by music and singing. Turning towards the direction whence the sounds proceeded, we saw a large

number of men and women, young and old, dancing the *casua* and singing a harvest song similar to those which we had heard in the valley of Cuzco. Horses and mules, on a specially prepared area, were tramping the wheat to separate the grain from the straw, and the dancers formed a ring around the musicians and singers. After each verse of the song, which was sung by a singer in the center of the circle, the dancers repeated the refrain and with apparently increasing emphasis and delight. Even the dogs—and there were many of them—seemed to enjoy the celebration, for they were running and jumping, barking and wagging their tails and mingling with the merrymakers, as if their manifestations of delight were an essential part of the *trilla*—harvest-festivities. They certainly contributed not a little to the interest of the scene, and enhanced at the same time the peculiar local color of the picture.

Nearer the *cumbre*, on a broad plateau, covered by large flocks of sheep and herds of cattle, were two rock formations that were so peculiar that I took several photographs of them. They are known as *Las Monjas*—the Nuns—and *los Frailejones*—the Big Monks—and are immense, curiously-fashioned masses of trachyte and porphyry that seemed to have been ejected from the bowels of the earth, indicating, in the most striking manner, the action, in times gone by, of truly titanic forces in this part of the Cordilleras.

It was on this plateau that Pizarro and his gallant band camped the night before their arrival at Cajamarca. And so great was the cold in this place, according to Xeres, the secretary of the conqueror, that the horses of the cavalry could scarcely move. Even lower down on the mountain side, the temperature, he assures us, was so low that some of the horses were frost-bitten.

These experiences interested me greatly, as they were in such marked contrast with my own, for nowhere on my way from the coast to the *cumbre* had I found even chill enough in the atmosphere to cause me to change the light

clothing that I had worn in the warm lowlands. Nevertheless, when I crossed this part of the western Cordillera, it should have been colder than when the Spaniards passed this way, which was at the end of the winter season, whereas my visit was more than a month earlier.

I know that certain writers have harrowing stories to narrate regarding the rigors of the climate about Cajamarca. Wiener, for instance, tells us that the only way he could make his mules, which were unaccustomed to snow, cross the crest of the mountains in these parts, was to attach lassos to their noses and have other mules, familiar with these snowy heights, drag them across the arctic belt that here occasioned them such dismay. This author, in the same chapter, asks his readers to believe that the water-courses of the Andes, during the rainy season, rise from twenty to thirty meters in a few hours! ¹

When he wrote this about the snow-clad summit of the mountain, he must have had before him *The Travels of Cieza de Leon*, who declares that the mountainous region of Peru, extending the whole length of the Cordillera of the Andes, is so intensely cold that "its summits are covered with eternal snow, so that, in no way, can people live in this region, owing to the snow and the cold, and also because there are no provisions, all things being destroyed by the snow and the wind, which never ceases to blow." ² The fact is that the crest of the Cordillera in the neighborhood of Cajamarca is nearly a mile below the line of perpetual snow, and the vegetation is of such a character as to indicate that snow rarely, if ever, falls. All statements to the contrary notwithstanding, the climate of Cajamarca is quite mild and temperate, reminding one somewhat of that of Bogotá or Quito, where the inhabitants claim an eternal spring. Indeed, Humboldt does not hesitate to declare that the climate of Cajamarca "is much more mild and agreeable than that of either of these cities."

Xeres informs us that the Governor, as he calls Pizarro,

¹ Op. cit., pp. 117, 121.

² Part I, Cap. XXXVI.

“arrived at this town of Caxamalca¹ on Friday, the 15th of November, 1532, at the hour of Vespers.”² With his arrival was sounded the knell of the great Inca empire, and the day following Atahualpa was his prisoner. With a handful of men—less than two hundred—the dauntless conquistador had, in a few hours, overcome and dispersed an army of from thirty to fifty thousand trained Inca veterans, and the untutored swineherd of Estremadura was the uncrowned King of Peru.

It was just three hundred and seventy years later, to the very hour, that, following in the footsteps of the conquistadores, I entered the city so famous in the story of the Children of the Sun. And so preoccupied was I with thoughts evoked by my environment, that I was almost unconscious of what was going on about me, and arrived at Cajamarca with little more than a glimpse of the splendors of valley and mountain which make of this old Inca metropolis one of the most charming pictures to be seen anywhere in the entire region of the Cordilleras.

¹ Now usually written Cajamarca. Garcilaso more correctly calls it Casamarca, derived from the Quichua words *Casa*—frost—and *marca*—pueblo, or region. The name would seem to indicate that the temperature was originally lower here than it is at present.

² *Op. cit.*, p. 44.

CHAPTER XVII

THEATRE OF A GREAT TRAGEDY

Never shall I forget the impression made on me by my first view of Cajamarca. We were slowly descending from the elevated cumbre, which constitutes the watershed between the territory which drains into the Pacific and the vast area that is tributary to the upper Amazon. Suddenly, on rounding a mass of porphyritic rock, which stood before us, there burst upon us, like a vision, one of the most beautiful prospects it is possible for the imagination to conceive.

Before us was the splendid valley of Cajamarca, about a hundred square miles in extent, partitioned off into well-kept gardens teeming with fruit trees, picturesque haciendas, whitened with flocks and verdant pastures of luzerne, on which were browsing sleek and contented kine. In the foreground was the city surrounded by avenues of willows and quinquar trees, and reflecting from the tiled roofs of its houses and churches the rays of the sun which was rapidly approaching the crest of the lofty Cordillera. It was, indeed, a beautiful picture—such as one may see only in the tablelands of the Andes.

What unerring judgment the Indians of South America displayed in selecting sites for their towns and cities! And how they always chose the most beautiful locations, as well as those that were most valuable from a strategical point of view! So true were their instincts in this respect that the Spaniards nearly always selected the same places for their homes as had, long before their arrival, been the favored dwelling places of the aborigines. This is particularly true of the Andean region—along the coast as well

as in the elevated plateau. The capitals of Venezuela, Colombia, Ecuador, Bolivia and Peru were founded on or near the sites of Indian towns and villages. The same may be said of Cuzco, Arequipa, Trujillo and Cajamarca. And who will say that the Spaniards were not wise in thus accepting the judgment of the natives? They certainly could not have made better selections.

As I stood on the top of La Silla, the lofty peak that towers above the valley of Caracas, I thought the location of the capital of Venezuela was absolutely unrivaled. When I subsequently visited Bogotá and Quito, I was disposed to award to these charming cities the palm for beauty of site and picturesqueness of environment. But, when, some months later, I was able, from the famous heights of Sacahuaman, to survey the valley of Cuzco, walled in by snow-capped mountains, and to contemplate the glories of the former capital of the Incas, I felt that I then had before me a picture that of its kind, was peerless, unique. And so I think to-day. But as I now recall the locations and surroundings of the various cities it was my privilege to visit in South America, I think I am safe in ranking Cajamarca next to Cuzco; for the former, like the latter, combines in rarest fashion all the loveliness of fertile valley with the sublimity of the encircling Cordilleras.

But attractive as is the city itself, its inhabitants, I hasten to say it, are more attractive. And what shall I say of their hospitality? I had scarcely alighted from my mule before the hotel where I purposed stopping, when I found myself the recipient of all kinds of delicate attentions from the pre-fect and others to whom I had letters of introduction.

One gentleman, Mr. L——, the leading citizen of Cajamarca, insisted on my remaining with him, and before I had time to thank him for his proffered courtesy, he had ordered my baggage to be transferred to his residence. Here I had not only all the comforts of home, but also, what I valued much more, the advantages accruing from associating with cultured and refined people.

ALONG THE ANDES AND DOWN THE AMAZON

What pleasant recollections I have of Mr. L—— and his charming family! How kind and sympathetic they all were; and how eager they were to have me enjoy my visit to their mountain home! Nothing was left undone that could contribute to my comfort or entertainment. All vied with one another in showing their guest every possible consideration, and in contributing towards making him realize that, although just arrived, he was not a stranger, that in Peru, at least, one could be

“*Hospes ubique novus, nulla perigrinus in urbe.*”¹

The day was usually spent in visiting the places of interest in and about the city, while the evenings were devoted to musical and other entertainments provided by my ever-kind and thoughtful hosts. The music on both piano and violin was of an exceptionally high order of merit. But what surprised me was the preference manifested by all the performers for German music. Wagner and Liszt seemed to be the favorites, although there were frequent selections from Mozart, Haydn and Beethoven. The way in which some of the sonatas of the German composers were executed surprised me beyond measure; for I certainly never expected to hear such exquisite music in this distant corner of the Cordilleras.

“But how,” I asked my host, “did you get your piano here, having no rail- or wagon-roads from the coast?”

“It was,” he replied, “brought on the backs of Indians, for there was no other way of transporting it. I employed about forty of them and they carried it by relays, so that the task was not so difficult for them as one might suppose.”

He then, in response to my questions, told me many things about the Indians and cholos, that will, I think, surprise many people who have been accustomed to regard Indians and half-breeds, wherever found, as utterly worth-

¹ “Everywhere a guest, nowhere a stranger.”

less and untrustworthy. Mr. L——, besides being heavily interested in the celebrated silver mines of Hualgayoc, does an extensive wholesale business in merchandise of all kinds, and his operations extend from the Pacific to the Huallaga. His experience with Indians and cholos is, therefore, worth recording, and I take pleasure in doing it, as it is in keeping with my own observations on these much misrepresented members of the human family.

“During the past twenty years, I have,” declared Mr. L——, “shipped millions of dollars’ worth of silver to the coast by mules in charge of Indians and cholos and so far I have never lost a dollar. I supply goods to nearly five hundred retailers, whose purchases range from five to twenty thousand soles, and carry them on my books from six months to a year. The amount of merchandise credited to these people is scarcely ever less than a million soles, and I can truthfully say that I have rarely lost anything through the dishonesty of my customers.”

I then recalled what I had seen at Guauqui illustrative of the honesty and reliability of the Indians, and what the early chroniclers tell us about the absence of locks and keys in the houses of the Children of the Sun. How different is all this from the idea entertained by certain people in the United States, who do not hesitate to declare that all Indians are absolutely depraved and untrustworthy.

Before departing from Lima I was assured that I should find in the neighborhood of Cajamarca long sections of the old Inca roads in an excellent state of preservation. I, accordingly, looked forward to the inspection of these remains of pre-Columbian times with eager anticipation.

Cieza de Leon, commenting on these roads, about which so much has been written since his time, expresses himself as follows:

“One of the things which I admired most, in contemplating and noting down the affairs of this kingdom, was to think how and in what manner they could have made such grand and admirable roads as we now see, and what a number of

men would suffice for their construction and with what tools and instruments they can have leveled the mountains and broken through the rocks to make them so broad and good as they are. For it seems to me that if the Emperor should desire to give orders for another royal road to be made like that which goes from Quito to Cuzco, or the other from Cuzco to Chile, with all his power I believe that he could not get it done; nor could any force of men achieve such results unless there were also the perfect order by means of which the commands of the Incas were carried into execution. For if the road to be made was fifty leagues long, or one hundred or two hundred, and though the ground was of the most rugged character, it would be done with diligent care. But their roads were much longer, some of them extending for over one thousand one hundred leagues along such dizzy and frightful abysses that, looking down, the sight failed one. In some places, to secure the regular width, it was necessary to hew a path out of the living rock; all of which was done with fire and their picks. In other places, the ascents were so steep and high that steps had to be cut from below to enable the ascent to be made with wider spaces at intervals for resting-places. In other parts there were great heaps of snow, which were more to be feared, and not at one spot only, but often recurring. Where these snows obstructed the way, and where there were forests of trees and loose clods of earth, the road was leveled and paved with stones when necessary.”¹

This road, according to Gomara, was twenty-five feet wide, “cut in some places from the living rock, and in others made of stone and lime, and went in a direct line, without turning aside for hills or mountains, or even lakes,—a work, which all agree, exceeded the pyramids of Egypt, and the

¹ *The Second Part of the Chronicle of Peru*, Chap. XV. Cf. Chap. LXIII of the same work, wherein the author assures us that the road from Cuzco to Quito “was finished in less time than it is possible for us to imagine, for the Incas were no longer in ordering it than were their subjects in finishing it.”

paved ways of the Romans, and indeed, all other ancient works.”¹

In addition to this road in the sierra, there was, we are told, another and a longer road along the coast. This highway, Zarate informs us, was almost forty feet wide, with very large adobe walls from one end to the other. The same writer tells us that Huayna Capac, the conqueror of Quito, went from Cuzco to Quito “by one road and returned by the other, being covered and shaded all the way by overhanging branches and flowers of sweet odor.”²

On these and similar accounts by the early chroniclers have been based those pompous descriptions of the ancient Peruvian highways in which so many modern writers have given free rein to their exuberant fancy and which, probably, the majority of their readers have accepted as veracious statements of fact.

But what are the facts in the case? Was there any foundation for the glowing accounts of these roads which, according to Hernando Pizarro, surpassed anything in Christendom, and which, another enthusiastic Spaniard avers, should be ranked “amongst the greatest wonders of the world!” What is the present condition of these famous highways, that were constructed to defy the elements,—“made of free-stone slabs” and “covered with a cement or a mixture of lime and bitumen,”—which were pronounced by the conquistadores to be “beyond comparison greater than the monuments of Egypt or the structures of Rome.” Were these roads as durable as reported, were they “so nicely constructed that a carriage might have rolled over them as securely as on any of the great roads of Europe?” Was the road on the plateau, as we are assured by a modern writer, who accepted as literally true the statements of the historians of the conquest, “conducted over pathless sierras

¹ *Historiadores Primitivos de Indias*, Tom. I, p. 277, in *Biblioteca de Autores Españoles*, Madrid, 1877.

² *Historia del Descubrimiento y Conquista de la Provincia del Peru*, Lib. I, Cap. X, Tom. II of *Historiadores Primitivos de Indias*.

buried in snow; through galleries cut for leagues through the living rock?" Were "ravines of hideous depth filled up with solid masonry," and is it true that "all the difficulties that beset a wild and mountainous region and which might appal the most courageous modern engineer of modern times, were encountered and successfully overcome?"¹

I shall first give briefly the results of my own observations regarding the famed roads of the Incas, and then endeavor to explain how the fairy stories of the early chroniclers have been accepted as historic facts by the historians of succeeding ages.

While in Ecuador, as the reader may recollect,² I made a special effort to discover some vestiges of the northern section of the road that was said to have connected Cuzco with Quito. Not only was I entirely unsuccessful in my quest, but I could not find a single person who could give me any satisfactory information regarding it. If it ever existed, it should not, it seems, be so difficult to find at least some traces of it still. The remains of ancient roads in the neighborhood of Riobamba and Quito, that are sometimes attributed to the Incas, are most probably due to the Spaniards, or are vestiges of roads that were built by the natives of Quito before their conquest by the Children of the Sun.

During my travels on the Andean plateau between La Paz and Cuzco, I thought I should surely find something which would answer to the descriptions given of the great highway that is said to have connected the Inca capital with the Titicaca basin. Here I met with no more success than in Ecuador. I saw certain roads on the west shore of Lake Titicaca, that are said by some to have been the work of the Incas; but of this there is apparently no certainty. They may have been constructed by the Spaniards or by the Aymaras. At any rate, they were far from being

¹ Prescott, *The Conquest of Peru*, Lib. I, Chap. II.

² See Chap. V, p. 96.

the magnificent highways which the rulers of Cuzco are said to have built through the territory of Colla-suyu.

As I journeyed down the valley of the Vilcañota and through the great *bolson* of Cuzco, I was always on the alert to discover, if possible, traces of roads that were certainly of Inca origin, but the result of my observations was far from what I had anticipated. I found vestiges here and there of roads that were undoubtedly of great antiquity, but they may have been pre-Incaic, and the work of the builders of the Pelasgian structures found in Cuzco and in other parts of Peru. But whether they were due to the Incas or to their predecessors, or to the Spaniards, they gave no evidence of ever having been at all comparable with the splendid highways that once connected the capital of the Cæsars with the various parts of the great Roman empire. Even in and around the city of Cuzco, the streets and roads were at best nothing more than ordinary cobblestone thoroughfares, and are probably in nearly as good condition to-day as they were in the time of the Incas. They are certainly far from being the smooth, macadamized highways, or the roads constructed of carefully cut slabs of free-stone and porphyry that are said, once upon a time, to have existed in the sparsely settled and inhospitable northern regions of Tahuantin-suyu.

My last hope of finding remains of the Inca roads, that would even remotely justify the extravagant accounts given them by writers from the time of the conquest down to our own, lay in Cajamarca. Before leaving Lima I was shown a photograph recently made of what I was assured was a section of the old highway between Cuzco and Quito—a picture which represented a broad, well-paved way, that might, indeed, bear some semblance to the smooth, well-swept causeway over which Atahualpa and his army marched on his way from the warm baths of Pultamarca¹ to the plaza of Cajamarca on the memorable afternoon of Saturday, November 16, 1532.

¹ Still known as *Baños del Inca*—baths of the Inca.

Here again I was doomed to disappointment. The roads round about Cajamarca are no better than, if as good as, those seen in various other parts of the great Andean plateau. And, although I made special and persistent inquiry of the best-informed people in the city, I could not find one who was prepared to identify a single vestige of road that was of undoubted Inca origin.

I then found myself, much against my will, forced to abandon all my preconceived notions regarding the marvels and magnificence of the great Inca highways, the graphic accounts of which have so long fascinated thousands of readers in all parts of the world. I discovered, for the first time, that I had, perhaps, been cherishing an illusion when I expected to find in Peru anything that would warrant the extravagant statements of Cieza, Zarate, Gomara and others regarding what has been so long pointed to by many as one of the greatest evidences of Inca power and Inca civilization.

Had I expected too much, or had I been deceived by the Spanish chroniclers and by those who have so closely followed them as authorities for the last four centuries?

I had not, it is true, visited all the territory through which these much vaunted roads passed, but I had traveled several thousand miles along the routes which they are said to have traversed, and had explored those sections of the countries where vestiges of them should be best preserved, and I had found nothing anywhere to justify the statements, so often repeated, that the roads in question were, at the time of the conquest, equal, if not superior, to those great Roman highways which have for two thousand years evoked the admiration and the praise of the engineers of the world.

So great was my disillusion that at first I hesitated to formulate an opinion that must needs be at variance with the generally-accepted view of historians and travelers who have descanted so eloquently on the glories of Inca rule

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and Inca enlightenment. But why hesitate to speak the truth, if one's conclusions are justified?

I have already quoted the opinion of the learned German explorer, Dr. Reiss, who has, probably, more carefully explored the region of the Andes than any man who ever lived. This careful and conscientious investigator, in referring to the remains of the Inca road near the boundary between Peru and Ecuador, which Humboldt had so highly praised, does not hesitate to declare, "I do not understand how they can have been compared to the most beautiful highways of the Romans."¹

As to the section of the Inca road between Cuzco and Oroya, which I did not have an opportunity of inspecting, Petrocokino writes: "A few loads of granite setts shot into a road and left to settle would fairly describe the present condition of this famous highway."²

Bandelier, who is so well and favorably known for his archæological researches in Peru and elsewhere in Spanish-America, confirms my own observations in the most positive manner. "Roads of ancient make," he writes, "exist in various places, but they are not after a general plan, and not connected. These roads, or wide trails, I have seen often in the course of eleven years' explorations, and have found them to be ways of communication between neighboring tribes, made by these tribes previous to Inca sway. Bitter are the complaints of the early Spaniards when they describe their first march to Cuzco over the absence of trails, even in the vicinity of that settlement."³

¹ In his *Views of Nature*, p. 393, Bohn edition, Humboldt expresses himself as follows: "None of the Roman roads, which I have seen in Italy, in the south of France and in Spain, appeared to me more imposing than this work of the ancient Peruvians." I rather suspect that, had he not been deterred by the reverence, which all his countrymen entertain for the illustrious author of the *Cosmos*, Dr. Reiss would have been less guarded in his judgment.

² *Along the Andes*, p. 45, London, 1903.

³ *Harper's Magazine*, Vol. CX, pp. 636-637. Larrabure y Unanue, holds a similar view as to the antiquity of the roads in question. "Manco Capac and his descendants," he writes, "must have found roads already made, correspond-

This statement of the eminent explorer is quite different from that which Wiener makes regarding the network of macadamized roads whose existence through the length and breadth of the Inca empire, he will have it, admits of no doubt whatever.¹

What Bandelier says concerning roads being made by certain tribes previous to Inca sway may, I think, be regarded as unquestionable. This would apply particularly to the vestiges of roads along the coast near Trujillo in the territory formerly inhabited by the enterprising and powerful Chimus. It would likewise hold good for the region around Cajamarca, and that part of the Andean tableland which is included between Riobamba and Quito.²

Zarate would have us believe that during the reign of a single Inca—Huayna Capac, the conqueror of the country now known as Ecuador—two roads were begun and completed and that each of these was five hundred leagues in length, “very broad and smooth, and so level, when finished, that a carriage might have gone over it.” And we are furthermore asked to believe that all this was accomplished by a people who had no knowledge of explosives of any kind and who were even ignorant of the use of iron; that both these stupendous undertakings were car-

ing to earlier civilizations, and they but re-established them little by little and repaired them in proportion as they advanced in their conquests and extended their frontiers.” Op. cit., p. 149.

¹ “Ce réseau—tel qu’ il résulte des itinéraires des *conquistadores* connus par les historiographes de la conquête—est donc une reconstitution qui a tous les caractères d’ une certitude absolue.” Op. cit., p. 556.

² Gomara admits this for the mountain road between Cuzco and Quito, for he says, “Guainacapa”—Huayna Capac—“lo alargó y restauró, y no lo hizo, como algunos dicen; que cosa vieja es, y que, no la pudiera acabar en su vida”—“Guainacapa extended and restored it, but did not build it, as some say, for it is something old, and he could not have completed it during his lifetime.” Op. cit., p. 277. As Quito did not come under the dominion of the Incas until the reign of Huyana Capac, it is clear, from Gomara’s testimony, that at least the northern part of the Cuzco-Quito highway was not the work, as is usually supposed, of the Children of the Sun, but of the earlier inhabitants of the conquered country.

ried to a successful issue while the Inca monarch was engaged in subjugating the powerful and well-organized tribes of the north and by a population which, we have reason to believe, was no more numerous in the regions traversed by the roads in question than it is at present. To construct two such roads as those described between Cuzco and Quito would, even to-day, exhaust many times over the resources of the Peruvian government and baffle our most expert engineers with all the appliances of modern science and Yankee invention.

The descriptions of the Inca roads must, I cannot help thinking, be classed among those exaggerations which so often characterize the accounts of battles between the Incas and the conquistadores, in which the chronicler is made to exalt the glories of Spanish valor by recording events that did not and could not have occurred. The exaggerations may also be due to the fact that the mountain trails which they found among the sierras were incomparably better than the narrow and precarious paths with which they had been familiar in the wild, forest-clad regions of Darien and Castilla del Oro.

Still another reason, aside from exaggeration, may be found in the fact, too often ignored, that the public highways, even in Europe, were, at the time of the conquest, far from being what they are to-day. In Spain good roads, even between the largest cities, were quite exceptional. Usually they were so bad as to evoke the historical exclamation, *O dura tellus Hispaniæ!* Such being the case, the Peruvian roads may have appeared to many of the Spanish chroniclers, who had little knowledge of good roads in the mother country, as really deserving of the praise they bestowed upon them. But, compared with the Appian Way or the *Via Æmelia*, over which rolled the chariots of the Roman conquerors, or with the splendid roads in Europe and America, that are now the delight of the automobilist, the Inca highways, on which so much rhetoric has been wasted, were, in the sierras, little, if any, better than moun-

tain trails. Along the coast and outside of the towns they were probably nothing more than desert paths like those which, not many decades ago, passed through the *Llanos Estacados* of western Texas. The fact that such slight vestiges of them now remain proves conclusively that they were far from being the matchless works depicted by chronicler and explorer, and incomparably inferior to the noble *Via Sacra* that terminated in Eleusis, or the magnificent causeway over which the pilgrims of nearly three thousand years ago journeyed up the flanks of Parnassus on their way to the shrine of the Delphic Apollo.

It is said that the Inca roads were destroyed by the elements and the Spaniards. If they were ever what they have been represented to be,¹ they would surely make as good a showing to-day—which they certainly do not—as does the road, still imposing in its ruins, which led up a steep mountain slope to the most famous oracle of ancient Greece.

That this tradition, or fiction rather, concerning the roads of the Incas as works deserving to be classed among the wonders of the world, and that, too, in a country in which there were no beasts of draught or burden, except the llama, and no wheeled vehicles of any kind, should have been able to survive so long, is to me one of the most wonderful things in connection with the history of Peru. It shows how limited is still our knowledge of this interesting land, and the necessity there is of a more thorough study of its archæological remains and early history, especially that bearing on the divers waves of migration which have passed over this part of South America, leaving everywhere traces of their passage and often, too, leaving behind them

¹ Las Casas, for instance, who, relying on his informants who had been in Peru, describes the roads as "*Cosa admirable y divina*," and declares that the one in the sierra, which, he tells us extended from Pasto, in New Granada, to the Strait of Magellan, was so well constructed as to resist the destructive effects of the elements for all time—"que ni por nieves ni por aguas puede jamas derrumbarse." *Apologetica Historia de las Indias*, p. 662, in *Nueva Biblioteca de Autores Españoles*, Madrid, 1909.

monuments like those of Chan-Chan, Pachacamac and Tiahuanaco, which equal, if they do not surpass, anything still standing to perpetuate the memory of the Children of the Sun. When such an exhaustive investigation shall have been made, we shall doubtless discover that much of what has long been attributed to the Incas should be credited to their predecessors or contemporaries, and that among the many works for which the Incas have received exclusive credit, not the least of them will be those famous highways which have been such a favorite theme for writers on Peru since the time of the conquistadores.

As we were returning from our futile attempt to locate the section of the road, which I had been so positively assured could be found in the immediate vicinity of the city, we came to the Church of San Francisco, said to be built on the site formerly occupied by the temple of the Sun. The reader in this connection will recollect that what still remains of the great temple of the Sun in Cuzco is now a part of the Church of San Domingo.

"Let us call on the Franciscans while we are here," said one of the party. "They are charming people and are doing noble work, not only in the city here but also in the towns and villages for miles around. The people, and especially the Indians, almost idolize them, for they are sure to see these good *padres* among them whenever they are in trouble or when their ministrations are required. The recording angel only knows the good these devoted sons of St. Francis have accomplished among the poor of the Cordilleras. Their name is held in benediction by all who have come under their gentle and benign influence, and deservedly so."

The good religious received us most cordially and showed us everything of interest in their church and monastery. One could see at a glance that they were true to their profession—men of zeal, abnegation and of the broadest charity for their fellow-men, of whatever faith or calling. They were, indeed, worthy disciples of the *Poverello* of Assisi,

and we left them ready and willing to believe all the good things we had heard of them.

But a short distance from San Francisco is the site which tradition says was occupied by the convent of the Virgins of the Sun. The student of Peruvian history is aware that there was a temple of the Sun in all the important towns of the Inca empire, and wherever there was such a place of worship there was also an *accla-huasi*—a house of women engaged in service connected with the worship of the Sun.

As in Cuzco the *Accla-huasi*—the abode of fifteen hundred Virgins of the Sun, all of the blood royal—is now the convent of Santa Catalina, so here on the reputed site of the Virgins of the Sun, there is a similar institution. For here the Sisters of Charity, those noble daughters of St. Vincent de Paul, who are ever found where there is distress to be relieved, or suffering to be allayed, have a school, an hospital and an orphan asylum, all of which are conducted on the same principles that have rendered their institutions so famous in every part of the globe. Here we found the same devotion to duty, the same self-sacrifice that characterize the labors of their sisters in the isolated Llanos of Colombia or among the children of the forest on the banks of the Napo; the same zeal for the work of the Master, the same ardent charity for the poor and the unfortunate as take their associates in religion through the snows of Athabasca, or into the jungles of equatorial Africa, or renders them happy in the pest-laden atmosphere of the leper colony of Molokai.

“How,” I asked the mother superior, remembering the long and painful journey from the coast to the crest of the Cordillera, “how were you ever able to reach this out-of-the-way place in the mountains?”

“To tell the truth,” replied the humble religious, “I hardly know how we got here. None of us had ever been in the saddle before, but somehow or other we all managed to keep on our mules and arrive here without a mishap

of any kind. I suppose also," she said smiling, "we were able to realize, as others have realized, the truth of the old saying: '*Quien se guarda, Dios le guarda*'—'God helps those who help themselves.' "

"And where did you stop at night, when there were no hotels to be found?"

"We were always given hospitality by the people along the road. They everywhere—God bless them!—vied with one another as to who should have the honor of entertaining *las hermanitas*—the little sisters, as they called us—and although their homes were often very humble, and they had but little to give us, their extreme kindness and their manifest delight at having the sisters in their midst, made us forget all the little inconveniences and discomforts of our surroundings."

These same sisters, I may here add, were, at the time of my visit, contemplating the establishment of a house in Chachapoyas, in the heart of the Sierra to the east of the Marañon. The length and arduous character of the journey to that distant point had no terrors for them. They were ready to depart on a moment's notice, whenever obedience called them.

" '*Que mujeres tan heroicas!*'—'what heroic women,' " exclaimed one of our party in admiration of all he had seen and heard.

" '*De veras, son heroínas,*' " responded another, "' *y angeles de pureza y caridad*'—'they are indeed heroines and angels of purity and charity.' How different is their vocation from that of the so-called Virgins of the Sun, who formerly had their home on or near this spot!"

He was right. And, ungracious as it may seem, it is safe to say that as many errors have been current regarding the "Virgins of the Sun" as have so long prevailed concerning the roads of the Inca.

The initial mistake about their true character arose from the misleading name *monasterios*—convents—given their habitations by the Spaniards at the time of the conquest.

Calling the houses "convents" and the inmates *monjas*—nuns—governed by *abadesas* and *maestras de novicias*—abbesses and mistresses of novices¹—from a fancied resemblance to institutions with which they were familiar in the mother country, they unconsciously gave currency to an error in the minds of many that still persists and in spite of all that has been written to the contrary. Had they used the Quichua name, *accla-cuna*—chosen ones—applied to these women and employed the term *accla-huasi*—house of the chosen ones—to designate their place of abode, the misapprehension that has so long obtained regarding their true character would, probably, never have occurred.

Then again, the error once started on its course, was perpetuated by Garcilaso, who unduly lauded the lives of the *accla-cuna* and their strict observance of claustral rules, which, he declares, were never violated either by those within or those without the sacred precincts of the cloister. But he is practically alone in this view for the concurrent testimony of most of the early chroniclers discloses quite a different story.

Xeres, for instance, tells us that on their way to Cajamarca, the soldiers of Pizarro, at the entrance of the village of Caxas, found "certain Indians hung up by the feet," and this, they were informed, was because "Atabalipa—Atahualpa—had ordered them to be killed, because one of them entered the house of the women," who were *accla-cuna*.²

¹ Garcilaso, op. cit., Lib. IV, Cap. I-III.

² Op. cit., p. 28. *Accla-cuna*, it may here be remarked, is the plural of *accla*. The suffix *cuna* indicates the plural of the noun to which it is added. *Accllas*—the Spanish form of the plural—is usually employed. By a curious slip of the pen, Ficke writes "*an accla-cuna*."

The name given to the *religieuses* of the various Catholic sisterhoods by the Quichua Indians of the present time is *Dios-pa accla-cuna*—the chosen ones of God.

Those who desire further information regarding this interesting, but little-understood, subject of the character and occupation of the *accla-cuna*—and the uses of women and children as tribute among the Incas, may consult

An incident of much greater import, bearing on this matter, is recorded by Salcamayhua. In his *Account of the Antiquities of Peru*, he tells us how Huascar Inca "ordered the *acllas* of all four classes to be brought into the open square of Cuzco in the middle of all the curacas and the whole army and to be forced to gratify the basest passions of a brutal soldiery."¹

Other similar instances are recorded, but the two just adduced show how far from the truth Garcilaso is who, when speaking of the penalties incurred by those who violated the law governing the *accla-huasi*, assures us that that law "was never put into execution, because no man ever transgressed it."²

The fact is, as we learn from the statements of those "who saw Indian society in Peru while in its primitive condition," the *aclla-cuna* and *mamaconas*—outside of those who were of the blood royal—*ñustas*—were nothing more than "a tribute in women exacted by the Cuzco tribe," and "chastity on their part was only relative, not absolute. The buildings in which such women were kept were neither more nor less than storehouses sheltering a tribute of women."³ Hernando Pizarro, in a letter to the royal audience of Santo Domingo well calls them "houses of imprisoned women with guards at the doors." That the reader may see at a glance how the *aclla-cuna* were recruited and what were their occupations and the

with profit *The Second Part of the Chronicle of Cieza de Leon*, Cap. XVIII; *History of the Incas*, Chap. LII, by Pedro Sarmiento; Ramos, *Historia de Copacabana y de su Milagrosa Virgen y compendiada por Fray Rafael Sans*, La Paz, 1860; *Relacion del Descubrimiento y Conquista de los Reinos del Peru*, p. 266, por Pedro Pizarro in *Coleccion de Documentos ineditos para la Historia de España*, Vol. V. Discarding all euphemistic paraphrase, Fiske, in his work, "The Discovery of America," Vol. II, p. 345, declares that the *acllas* "were concubines of the Inca." Their consent to becoming inmates of the *accla-huasi* was never asked, and if they entered it or remained in it voluntarily, it was usually for the same reason that a Georgian or Circassian beauty becomes a willing odalisk in the seraglio of the Grand Turk.

¹ Op. cit., p. 112.

² Op. cit., Lib. IV, Cap. III.

³ Bandelier, *The Islands of Titicaca and Koati*, p. 254.

purposes they served, I will transcribe a passage from the accomplished statesman, Polo de Ondegardo, who went to Peru with President Gasca, and who, for a time, was corregidor of Cuzco. In his report on the *Lineage of the Incas and How They Extended Their Conquests*, he writes as follows:—

“There was another kind of contribution in the time of the Incas, which was as heavy and onerous as all the others. In every province they had a house called *Aclla-huasi* which means, ‘the house of the chosen ones,’ where the following order was kept: There was a governor in each province whose sole duty was to attend to the business of these houses, whose title was *Apu-panaca*. His jurisdiction extended over one *hunu*, which means ten thousand Indians, and he had power to select all the girls who appeared to him to be of promising dispositions, at the ages of eight or nine years, without any limit as to the number chosen. They were put into this house in company with a hundred *Mama-cunas*,¹ who resided there, where they were taught all the accomplishments proper for women, such as to sew, to weave, to make the drinks used by the Indians; and their work, in the month of February at the Feast of Raymy was taken to the city of Cuzco. They were strictly watched until they reached the age of thirteen or fourteen years and upwards, so that they might be virgins when they should arrive at Cuzco, where they assembled in great numbers from all the provinces in the middle of March. The order of distribution was as follows:

“Women were taken for the service of the Sun, and placed in the temples, where they were kept as virgins. In the same order women were given to the service of *pacha-mama*, and of other things in their religion. Then others were selected for the sacrifices that were offered in the course of the year, which were numerous. On these occasions they killed the girls, and it was necessary that they should be virgins; besides offering them up at special sea-

¹ Matrons who had charge of the Virgins of the Sun.

sons, such as for the health of the Inca, for his success in war, for a total eclipse of the sun, on earthquakes, and on many other occasions suggested by the Devil. Others were set apart for the service of the Inca, and for other persons to whom he showed favor. When any man had received a woman as his legitimate wife or *mamanchu*, he could not take another except through the favor of the Inca, which was shown for various reasons, either to one who had special skill in any art, or to one who had shown valor in war, or had pleased the Inca in any other way. The number of women who were set apart for these uses was very great, and they were selected without any regard to whom they belonged, but merely because they were chosen by the *Apu-panaca*, and the parents could not excuse or redeem them under any circumstances. Estates were set apart for the support of the houses of the chosen ones and this tribute would have been felt more than any other, if it had not been for the belief that the souls of the girls that were sacrificed went to enjoy infinite rest, which was the reason that sometimes they voluntarily offered themselves for sacrifice.”¹

This quotation shows how the so-styled “Virgins of the Sun” were, in their *raison d’être* and occupation, *toto cælo* different from the consecrated virgins of the Catholic Church, who voluntarily and only after attaining womanhood, assume the obligations of a life of poverty, chastity and obedience, and dedicate themselves to the work of

¹ Op. cit., p. 165.

Garcilaso denies that the Incas were ever guilty of human sacrifices. The consensus of authority is, however, decidedly against him. Among modern writers Markham sides with Garcilaso, while Prescott, Rivero and Helps accept the testimony of the majority of the early chroniclers, who distinctly assert the existence of human sacrifices among the ancient Peruvians, although “they were never,” as Prescott observed, “followed by those cannibal repasts familiar to the Mexicans and to many of the fierce tribes conquered by the Incas.” For a summary of the evidence bearing on this question, see *Prescott’s Conquest of Peru*, Book I, Chap. III, and Markham’s translation of Garcilaso’s *First Part of the Royal Commentaries of the Incas*, Vol. I, pp. 139–142.

instruction of youth and the care of the poor, the sick, the helpless and the unfortunate.

Adjoining the convent of the Sisters of Charity and a part of the property within their enclosure, is what is represented to be the building in which was collected the famous ransom of Atahualpa. I know that Lorente¹ asserts that this historic structure was recently destroyed, but I think he must confound the captive's prison, which has disappeared, with the chamber in which the ransom was stored, which was in a different part of the city. At all events, tradition in Cajamarca, which seems to be well founded and is generally accepted, points to this building on the premises of the sisters as *El Palacio del Inca*—the house of Atahualpa's ransom.

With the kind assistance of the prefect I measured the building and found its inside dimensions to be as follows:

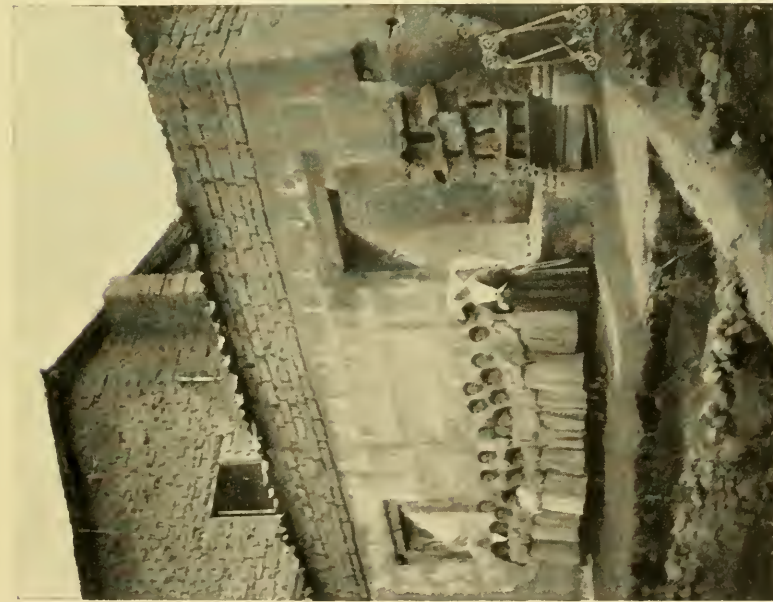
Length	.....	32	feet	9	inches
Width	.....	20	"	9	"
Height	.....	10	"	8	" 2

The wall is thirty-four and a half inches thick and built of the same kind of massive dressed stone that is found in the old Inca palaces and temples of Cuzco and Ollantaytambo. There seems no doubt about the antiquity of the structure, and the architecture in all its details is decidedly Incaic.

The height to which Atahualpa agreed to fill this building with gold and silver, chiefly in the form of ornaments and domestic utensils, as the price of his liberty, was nine feet, or as Hernando Pizarro expresses it, "up to the white line, which was the height of a man and a half from the floor." The value of the treasure actually collected, ac-

¹ *Historia de la Conquista del Peru*, p. 161, Lima, 1861.

² This agrees closely with the dimensions—evidently not intended to be exact—given by Hernando Pizarro in his *Letter to the Royal Audience of Santo Domingo*, in which he states that "the room was seventeen or eighteen feet wide, and thirty-five feet long." *Reports of the Discovery of Peru*, p. 120, translated by C. R. Markham for the Hakluyt Society, London, 1872.



HOUSE OF ATAHUALPA'S RANSOM, CAJAMARCA.



INDIAN WOMEN ON THE PARANAPURA.

cording to Xerez and the notary Pedro Sanchez, was four million six hundred and five thousand six hundred and seventy ducats, which has been estimated to be equal to £3,500,000—more than \$17,000,000 our money.¹

This immense treasure of gold and silver, added to the millions subsequently found in the ruins of Chan-Chan and in and about Cuzco, Mananchili and Lake Titicaca gives one some idea of the hoards of the precious metals that had, during long generations, been accumulated by the ancient Peruvians. And yet, if we are to credit the statements made at the time of the conquest, the Spaniards secured but a small fraction of the treasures that existed in the country before their arrival.

A short distance from the *Palacio del Inca*, on the side of the plaza opposite *La Matriz*—the chief church of the city—is *La Carcel*—the prison of the department—in which is shown a slab that marks the spot where Atahualpa was garroted under conditions which leave a stain on the memory of all who were in any wise responsible for his execution. The whole transaction has been truthfully characterized by Las Casas as “*larga, lamentable y dolorosa historia, no menos misera de contar*”—“a long and lamentable and dismal story and pitiful to relate.”²

It is not my purpose to discuss a subject that has been a matter of controversy for nearly four centuries—a controversy which has too often been dominated by the spirit of party and nationality—but no student of history can stand on this tragic spot unmoved or without making a few reflections suggested by the memory of the proceedings which, in the opinion of many, constitute the darkest chapter in the annals of Peru.

Without holding a brief for Pizarro and his companions, one may be permitted to believe that much may be said in extenuation of the tragedy which has been condemned by

¹ Garcilaso, *Comentarios Reales del Peru*, Parte II, Lib. I, Cap. XXXVIII, Madrid, 1722.

² Op. cit., p. 681.

some in such unmeasured terms and defended by others as a political expediency, if not a military necessity.

The occurrence was no doubt a most regrettable one, but whether the Spaniards deserve all the unreserved condemnation they have met with at the hands of certain historians is not clear. There are two sides to every question, and the more carefully the execution of Atahualpa is studied by the impartial investigator, the more it becomes evident that the circumstances leading to it are calculated greatly to mitigate the reprobation that the deed has provoked.

Without entering into details, which would be out of place in a work like the present, it may be safely asserted that Pizarro and his men—whatever were the real motives which actuated them in taking the life of their victim—did merely what others would have done if similarly situated. They were, or believed they were, in a hostile country and surrounded by myriads of men subject to the orders of a cruel and perfidious usurper. What was then left for them to do? Allow themselves to be captured by their enemies and offered up as a sacrifice to the Sun,—the god of the empire,—or wait resignedly until the troops of the Inca had taken positions of vantage in order thus to have the invaders more securely in their power? Advance or retreat was out of the question, as long as it was possible for the Inca to command the hosts that had followed him from Quito, and who but awaited a signal from him to do his bidding. They had, at his instigation, cruelly murdered his brother Huascar and put to an ignominious death all those who might impede his way to a throne to which he had no claim. Unless, then, the Spaniards were prepared to share the fate of Huascar and his followers, a bold *coup de main*, that would strike terror into the minds of the Indians was imperative. For “when one is driven to despair, one is ready to fight even against sky-gods.” There seemed to be no alternative between their own death and that of Atahualpa. When

this conclusion was arrived at, the fate of the Inca was sealed.

The result was as anticipated. "By one bold stroke," writes Prescott, "Pizarro broke the spell which had so long held the land under the dominion of the Incas. The spell was broken, and the airy fabric of their empire, built on the superstition of ages, vanished at a touch."¹

Regarding the action of the Spaniards in thus eliminating from the scene of action the only one who seemed competent to arrest their career of conquest, one can say with Helps, "It is not for one generation to comment very severely on its predecessors. The history of the most advanced times presents nearly as much that is ludicrous, disastrous and ill-considered as can readily be met with at any previous period of the world."²

As to Valverde and Atahualpa, who played such prominent rôles in the great tragedy a few words will suffice.

Unless history be entirely at fault in what it teaches us concerning the learning, the wisdom and the charity of the first bishop of Cuzco, and his tender solicitude for the Indians of whom he, like his illustrious brother Dominican, Las Casas, was always a zealous and strenuous protector,³ Valverde was very far from being the ignorant, cruel, fanatical monk that has marred the pages of certain historians of the Peruvian conquest. Until, therefore, further and more reliable evidence is forthcoming in proof of his alleged fanatical and inhuman conduct, one will be, it seems to me, fully justified in accepting the conclusion of Count de Maistre regarding this long-debated question. In his *Soirées de Saint Petersburg*, the learned author, after a

¹ Op. cit., Book II, Chap. V.

² *The Spanish Conquest in America*, Vol. III, p. 398, London, 1902.

³ In a letter to Charles V he urges the perpetual emancipation of the Indians in the following language: "A. V. M. resentarán allá los conquistadores muchos servicios dandolos por causa para que dejen servir á los indios como de esclavos; V. M. se los tiene mui bien pagados en los provechos que han habido en esta tierra, y no los ha de pagar con hacer á sus vasallos esclavos."

careful study of the subject, does not hesitate to declare that all which has been charged against Valverde in the sad episode which we have been considering bears the intrinsic marks of falsehood.¹

"Personal sympathy, of course, would be wasted upon such a blood-thirsty wretch as Atahualpa."

In these few words Fiske expresses his opinion of the ruthless fratricide and sanguinary despot, whom some writers have pictured as "a confiding youth and a gentle lamb," but whose death, far from exciting sorrow, was the occasion of rejoicing throughout the empire. So universally was he recognized as a bastard usurper, as one who, by "a succession of cruel butcheries, vainly attempted to exterminate the royal race," that he has never been admitted by the Peruvians into the list of their Incas. Even "to this day," writes Markham, "his name is held in universal abhorrence by the Indians, and is generally known as *Aucca*, or the traitor."²

Another point that deserves passing notice, in order to complete what has been said in preceding chapters regarding the social and political status of the Incas, is the oft-repeated objection of those who have impugned the Spanish right of conquest in Peru.

This objection might be answered by a quotation from Fiske regarding the conquest of Mexico. "If," he declares, "we are to be guided by strict logic, it would be

¹ Vol. I, p. 101, Paris, 1854.

² *Cuzco and Lima*, p. 137, London, 1856.

Sarmiento in his *History of the Incas*, Chap. LXIX, expresses the same sentiment when he declares, that Atahualpa "was a tyrant against the natives of this country and against his brother Huascar. He had lived thirty-six years. He was not an Inca of Peru, but a tyrant."

Garcilaso, referring to the execution of Atahualpa, tells us that his countrymen "said that the Spaniards had put the tyrant to death as a punishment and to avenge the death of the Incas, and that the god Viracocha, the father of the Spaniards, had ordered them to do it. This is the reason they called the first Spaniards by the name of Viracocha, and believing they were sons of their god, they respected them so much that they almost worshipped them and scarcely made any resistance to the conquest." Op. cit., Lib. V, Cap. XXI.

difficult to condemn the Spaniards for the mere act of conquering Mexico, without involving in the same condemnation our own forefathers who crossed the ocean and overran the territory of the United States with small regard for the proprietary rights of Algonquins, or Iroquois, or red men of any sort."¹

"But," the objector urges, "the Children of the Sun were a civilized people and as such should have been left in undisturbed possession of their lands and liberty."

This is precisely the question at issue. Were they a civilized people, as so often represented by those who would exalt them at the expense of their conquerors?

According to Las Casas, who devotes his large *Apologetica Historia* to the exaltation of the virtues and the social, political and economic status of the primitive inhabitants of the New World, the Indians were inferior to none of the peoples of the Old World, and superior to many of them. Considering that they were deprived of the light of faith and were guided only by reason, and an innate sense of right and wrong, he declared that in the natural virtues and in moral excellence, they were superior to the Greeks and Romans; superior even to the English, French and some of his own countrymen, while in many respects they were incomparably above many other peoples.²

From the view-point of Las Casas, as is evinced from the words just quoted, the American Indians were far less barbarous, and consequently more civilized, than many peoples usually regarded as being in the fore-front of the cultured nations of the world. As, however, few, if any, can now be found who would be willing to endorse the above statements of the illustrious protector of the Indians, even among those who have made the most vigorous on-

¹ Ut. sup., Vol. II, p. 291.

² "Sobrepujaron tambien á los ingleses, franceses y algunas gentes de nuestra España, y á otras innumerables fueron tan superiores en las costumbres tenerlas buenas y carecer de muchas malas, que no merecieron con las de estas Yndias compararse," p. 684.

slaughts on the Spaniards for their conquest of a civilized nation like that of the Incas, it becomes necessary to define the much-abused words "barbarous" and "civilized."

If one were to accept the premises of Las Casas, regarding the meaning of "barbarian" as explained in the last four chapters of his *Apologetica Historia*, or if one were to admit, as well-founded, the statements, so frequently found in certain modern writers,¹ respecting the brilliant and superior civilization of the Children of the Sun, all the conclusions they have drawn concerning the culture and advanced social status of these interesting people would follow as a logical necessity. But, few or none, who have carefully examined the conditions that obtained among the ancient Peruvians are willing to admit that the so-called civilization of the Incas was at all what men of science now understand by the word "civilization."

According to the criterion now usually followed, true civilization begins with "the invention of a phonetic alphabet and the production of written records." For as has been truly observed, it is the phonetic alphabet, the A B C, that is the "grand achievement of the human mind, supreme in its endless possibilities, the achievement which, more than any other, marks the boundary line between barbarism and civilization, between the twilight of archæology and the daylight of history."²

This standard of itself excludes the Incas from the list of civilized peoples. Their predecessors, according to Montesinos, may have had written records, and possibly a phonetic alphabet, but of this there is no certainty. The

¹ Among others, J. W. Draper, who expresses himself as follows: "After an attentive consideration of the facts in the case, I agree in the conclusion of Carli that at the time of the conquest the moral man in Peru was superior to the European, and, I will add, the intellectual man also." *A History of the Intellectual Development of Europe*, p. 464, New York, 1863.

² There are, however, two notable exceptions to this criterion: "Where people acquainted with iron have enshrined in hieroglyphics so much matter of historic record and literary interest as the Chinese and Ancient Egyptians, they, too, must be classed as civilized."

quipus of the ancient Peruvians may have sufficed for keeping accounts, but were as useless as an instrument for recording historical events, or for the development of literature, as is a tally-stick or a belt of Indian wampum.

Nay, more. If we accept Morgan's definitions of the various grades of culture, as given in his *Ancient Society*, as do many eminent thinkers, we shall have to conclude not only that the Incas had not attained the grade of culture which can truly be called civilization, but also that they had not even reached the highest stage of barbarism. For the upper status of barbarism implies a knowledge of smelting iron ore and this knowledge was never attained by the ancient Peruvians or by any of the other peoples of aboriginal America. The culture status then, of the Incas was that of the middle period of barbarism—a status that was about midway between that of a Moqui pueblo and that of ancient Troy; a status which, as has well been observed, “spans the interval between such a society as that of *Hiawatha* and that of the *Odyssey*,” a status like that which obtained among the earlier Pharaohs, among the lake dwellers of ancient Switzerland and among the Mayas and Aztecs at the time of Cortes, and which, “on the shores of the Mediterranean, had been outgrown before the city of Rome was built.”¹

Those who have pinned their faith to the gorgeous accounts of the civilization of Peru at the time of Pizarro will, no doubt, be painfully surprised to learn that the Incas were but “one stage higher than Mohawks, and one stage lower than the warriors of the *Iliad*”; that their thatched palaces and temples, over which the early chroniclers waxed so eloquent, far from throwing Mycenæ into the shade or rivaling the remains of Cambodia, were, with a few notable exceptions mentioned in preceding chapters,

¹ For an illuminating discussion of this interesting subject, the reader may, in addition to Morgan's suggestive work on *Ancient Society*, consult with profit Fiske's chapter on *Ancient America*, in his work above quoted, *The Discovery of America*.

no better than the adobe and rubble-stone structures of the New Mexican pueblos.

No, the Incas were not civilized in the proper acceptation of the term. Far from it. It is not certain that civilization under their form of government—communistic despotism—was even possible. They had, indeed, domesticated the llama and the alpaca, and had made distinct progress in agriculture and irrigation, but they had no pastoral society, properly so-called, and still less anything like “the old patriarchal life on the plain of Mamre or by the waters of the Punjab.”

There could be no progress, because the development of the personal will of the subject was impossible. No effort on his part, no industry, no intelligence, however highly developed, could ameliorate his social condition, or contribute to his advancement. He was a slave utterly devoid of energy and individual initiative. He was but an automaton, a simple pawn on the Inca’s chessboard.

He had but a vague idea of private property or division of labor,¹ and none whatever of representative government. There was a certain rudimentary nationality, that had been developed by the successors of Manco Capac, but the nation, which was held together solely by fear of the Incas, who were by the great mass of their subjects regarded with superstitious awe as beings of a superior order rested on the most insecure of foundations. This is evidenced by the fact that the empire collapsed as soon as Atahualpa fell into the hands of the Spaniards, and without the bloodshed or carnage that usually attends the conquest of a nation as extensive as that of the Children of the Sun.

¹ Acosta tells us that “there were no particular trades-men, as amongst us, taylors, shoemakers, weavers, and the rest, but everyone learned what was needfull for their persons and houses, and provided for themselves. All coulde weave and make their garments, and therefore the Ynca by furnishing them with wooll, gave them clothes. Every man could till the ground, and put it to profite, without hyring of any labourers.” *Op. cit.*, Lib. VI, Cap. XVI.

The fact is that the empire of the Incas, so often regarded as possessing all the boasted advantages of Utopia, was nothing more than a realization of the ideals of certain of our modern socialists and communists. "It resembled," declared Humboldt, "a great monastic establishment, in which is prescribed what each member shall do for the common weal,"¹ or, rather, it was what Proudhon in his *Contradictions Économiques* has so aptly characterized as "*ces huitres attachées au rocher de la fraternité*"—"oysters attached to the rock of fraternity."

The absolute communism, that dominated every field of human endeavor, was the most striking object lesson ever given to the world that the doctrine of perfect equality in human society, which is now preached by certain doctrinaires and enemies of social progress, is the veriest chimera. If the Spaniards had not put an end to this unnatural system of government, the empire of the Incas would of itself soon have disintegrated and the people would have reverted to a lower stage of barbarism than that which they occupied at the time of the arrival of Pizarro.

Their government, in spite of all that has been said in its favor, was radically defective, and social and economic progress, as we understand it, was impossible. They were, it is true, far in advance of their Muisca neighbors to the north, and far superior in the arts of life, to the Araucanians of Chile. But the Araucanians, although incomparably fewer in number than the Incas, were, thanks to their superior military prowess, able to conserve their liberty, in spite of all the onslaughts made against them by Spaniard and Chilean, until the white man's whisky succeeded—but only in recent times—in sapping their admirable organism and stupefying their spirit of revolt, and

¹ *Vues des Cordillères et Monumens de Peuples Indigènes de l'Amérique*, p. 16, Paris, 1810. The same writer observes that "The founder of the empire of Cuzco, flattering himself to be able to force men to be happy, had reduced them to the state of simple machines." Ibid.

thus effecting what neither strategy nor gunpowder was competent to achieve.

In view of the preceding facts the conquest of the Incas was justified, if ever conquest was justified. The ancient Peruvians may have attained a certain degree of culture, as compared with the Araucanians, but they were barbarians as compared with the Spaniards. We can then say with the Vattel in his *Droit des Gens*, "The conquest of a people is justified if their moral and material condition is improved."

No one, who is familiar with the facts in the case, will deny that both these conditions have been more than satisfied in Peru by the Spaniards.

They brought to the aborigines what the old Romans, in the words of Virgil, called *moresque*¹ *viris et moenia*—religious culture and material civilization. They made Christians of idolaters, freemen of slaves, and converted savage and warlike tribes into the most peaceful peoples in the world.

Of the religion which effected this marvelous transformation one could say, in the words of the Venezuelan poet, Andres Bello:

"Maestra de los pueblos y los reyes
Cantaste al hombre las primeras leyes."²

They provided the Indians with schools and colleges, whence issued some of the most distinguished representatives of church and state that the country has produced. Not to go beyond the family of the ill-starred Atahualpa, it will suffice to mention the names of the historian Garcilaso de la Vega, whose mother was Isabel *Ñusta Yupanqui*, a niece of Huayna Capac, and Fernandez Piedrahita, bishop of Panama and the historian of New Granada, who was the great-grandson of another niece of Huayna Capac,

¹ "*Mores*," as Conington observes, "conveyed to a Roman many of the notions which political institutions and a social system convey to us."

² "Mistress of peoples and kings, thou hast sung to man superior laws."

Francisca Ñusta. Both of these ñustas, whose offspring achieved such distinction, were first cousins of Atahualpa.

One more point regarding the melancholy tragedy of Cajamarca, and I shall bring this long chapter to a close. This point has reference to the great loss of life that is said to have attended the capture of Atahualpa and the subsequent conquest of the empire of the Incas.

According to Stevenson, who accepts unreservedly the exaggerations of the early chroniclers, twenty thousand Indians were massacred on this occasion. We are asked to believe that each of the one hundred and sixty-two Spaniards present on this tragic occasion put to death no fewer than one hundred and twenty-three Indians in the space of half an hour—at the rate of more than four a minute. Well does Hutchinson characterize the whole story as “an incongruity of Münchhausenisms and impossibilities.”¹

As to the oft-repeated charge that the conquistadores were actuated by uncontrollable cupidity and exhibited every refinement of cruelty in their treatment of the ill-

¹ *Two Years in Peru*, Vol. II, p. 178.

According to P. Ricardo Cappa, op. cit., Lib. II, p. 81, the number of Indians who lost their lives in the tragedy of Cajamarca was not more than three or four hundred, while the total number of natives who perished at the hands of the Spaniards, until the complete pacification of the country, was not more than fifteen or twenty thousand—far fewer than had fallen victims to the ambition of the blood-thirsty usurper Atahualpa. Mendiburu, in his *Diccionario Historico-Biografico del Peru*, Tom. III, p. 396, puts the number of Huascar's subjects who lost their lives in consequence of Atahualpa's fratricidal war at no less than one hundred and fifty thousand.

When one reads about the large armies of the Incas, and the immense numbers of warriors that met their death at the hands of the Spaniards, one must agree with Fiske, when referring to similar matters in the conquest of Mexico. “Pertinent questions,” he observes, “arise as to the commissariat, and we are led to reflect that there is nothing about which old soldiers spin such unconscionable yarns as about the size of the armies they have thrashed. In a fairy tale, of course, such suggestions are impertinent; things can go on anyhow. In real life it is different. The trouble with most historians of the conquest of Mexico”—and the same can be said of most historians of the conquest of Peru—“has been that they have made it like a fairy tale.” Ut. sup., Vol. I, p. 128.

fated prisoner of the Cajamarca tragedy, one may say, in the words of Quintana:

“Su atroz codicia, su inclemente saña
Crimen fueron del tiempo y no de España.”¹

¹ “Their atrocious cupidity, their vehement passion, were crimes of the age, and not of Spain.”

CHAPTER XVIII

IN THE HEART OF THE ANDES

Another dream of my life—a visit to Cajamarca—had been realized and I was ready to start on the second lap of my journey across the Cordilleras. The officer, in charge of my escort, came to me, and with a military salute, said—“*Señor, todo esta listo*”—“everything is ready.” Our arrieros had gone ahead with our pack-mules with instructions to join us at Tambo Mayo where we were to spend the night. I had said good-by to the kind friends who had made my sojourn in their midst so delightful, when a servant of Mrs. L—— the mother of my host—came to me with a large hamper filled with provisions of all kinds.

“*La Señora,*” he said, “*dice que esto es un poco de fiambre,¹ para su viage de hoy*”—“My mistress says this is a little snack for to-day’s journey.”

This was the culmination of the many kind attentions that this good, thoughtful woman had shown me during my visit to Cajamarca. But the *poco de fiambre* was enough not for one day’s journey but for several. Of biscuits and cakes—how good they were!—there were enough to last us until we reached Chachapoyas, nearly a week later. Indeed, when I contemplated the liberal provision of necessities that had been made by my friends of Lima and Cajamarca for my journey across the mountains, I felt like a Roman envoy starting out to a distant province with a bounteous viaticum. The functionary of the Cæsars may have traveled in greater state, and may have had more sumptuous lodging and fare and raiment than I could com-

¹ This word really means “cold meat preserved for use,” but is frequently used to designate victuals of all kinds.

mand, but I am quite sure he did not enjoy more genuine comfort than I did during my wanderings among the Cordilleras, and that he did not have a tithe of the pleasure that was mine during weeks of delightful communion with Nature in her most glorious manifestations.

The prefect and his aid, my host and a number of other good friends insisted on accompanying me several miles before saying *Adios*. As we left the *prefectura*, what with the friends named and the escort that was to accompany me to Chachapoyas, we formed quite an imposing cavalcade—such, minus the military accouterments, as might have resembled that of Hernando de Soto and his companions when, nearly four centuries before, they sallied forth in the same direction towards the camp of Atahualpa the evening before that ill-starred chieftain's downfall.

It was near the Baños del Inca, where Atahualpa had his camp at the time of the arrival of the Spaniards, that I bade adieu to the prefect, and my host and their companions, who had come thus far to speed the parting guest on his way to the distant Amazon. After that adieu, my escort, not counting our arrieros and peons, was reduced to four—a captain of cavalry, two subordinate officers, and a foot-soldier. They were all jolly, good fellows, however, and to them I owed it that I was able to make the long journey through Andean wilds with the minimum of fatigue and the maximum of comfort and pleasure.

The Baños del Inca soon passed from view, and shortly after that we found ourselves ascending the picturesque sierra that borders the eastern part of the valley of Cajamarca. As we neared the crest of this lofty mountain chain, I faced about to get a last view of the city of Atahualpa, and of the lovely plain that is its joy and its treasure. It was indeed a beautiful vista—more beautiful even than that which had burst upon my eyes when I caught the first view of this historic place on my way from the Pacific.

Our first day's journey was in every way pleasant but

quite uneventful. The road was only a mountain trail, but it was not bad. We passed a goodly number of people on the way—mostly cholos and Indians going to Cajamarca—but the country traversed was comparatively uninhabited.

We arrived at the town of Tambo Mayo at three o'clock in the afternoon and went directly to the governor's house, where we were expected and where we were accorded the most courteous reception and the most generous hospitality. I had a special reason for spending the night at this place instead of going farther ahead, as I might have done. The reason was that I had been warned to avoid it as dangerous. "Whatever you do," I was told before leaving Lima, "don't stop at Tambo Mayo. It is a haunt of robbers and cutthroats, and the sooner you leave it behind you the better."

I had frequently received similar warnings regarding other places in South America, but I was always glad that I gave no heed to them, for not in a single instance, so far as I could discover, was there any justification for the warning given. It was the same in the case of Tambo Mayo. The people could not have been kinder or more hospitable than they were, and, had I not spent a good part of a day in their midst, I should have deprived myself of one of the most enjoyable experiences of my trip. I then once again realized the truth of the old saw, "Give a dog a bad name and hang him."

It seems that a quarter of a century before, during the unsettled state of the country consequent on the war with Chile, someone had been robbed or murdered in Tambo Mayo—although I could not verify the fact—and ever since that time the place has been looked at askance by travelers or avoided entirely, and innocent people have for many long years been made to bear obloquy and opprobrium for that for which probably they were not even indirectly responsible.

We were no sooner installed in a large and comfortable room in the governor's house, than many busy hands were

at work on *batan* and around the *kere* ¹ preparing our evening repast. The fatted lamb, in anticipation of our arrival, had been killed, not metaphorically but actually, and soon the table was loaded with the various dishes which the Peruvian cook knows so well how to prepare.

There were *chupe* and *puchero* and various *picantes*, not to mention many kinds of fruits and *dulces*—sweets.

Chupe, to the Peruvian, is what *sancocho* is to the Colombian and Venezuelan, what rice is to the Chinaman, and macaroni is to the Italian—the staff of life. When our arrieros and peons were liberally supplied with chupe, everything went on well, and they were as happy as the day was long. If with this they could have an occasional draught of *chicha* or *aguardiente*, so much the better. They would then give willing service day and night and never complain of long hours or over work.

A puchero is a much more elaborate dish than chupe, and in composition, is not unlike a Spanish *olla podrida*, such as Sancho Panza craved when, as governor of Barataria, he could get nothing more than a taste of the unsubstantial delicacies with which he was tantalized.

“To make a puchero according to strict gastronomic rules,” writes Fuentes in his interesting work on Lima, “put in a kettle a large piece of beef or mutton, some cabbage, sweet potatoes, salt pork, sausage meat, pigs’ feet, yuccas, bananas, quinces, peas and rice with anotto and salt for seasoning. Add a sufficient quantity of water, and let the whole stew gently for five or six hours, then serve in a tureen or deep dish.” ²

The puchero, which was placed before us by our hostess

¹ The *batan* of Bolivia and Peru, corresponding to the *metate* of Mexico, is a smooth stone slab together with a crescent-shaped crusher of the same material, used for grinding maize, coffee, aji, and achote. The *kere* is a clay hearth, without a flue or chimney, provided with a firehole and one or more apertures over which cooking vessels are placed. It is an improvement on the *tulpa*, consisting of only three stones eight or ten inches in diameter, found in all parts of the tropics.

² *Lima*, p. 122, London, 1866.

at Tambo Mayo did not, so far as I could judge, contain all the ingredients above mentioned, but it was certainly a most substantial dish, and was as palatable as it was substantial. It was, of course, duly seasoned, with *aji*—red pepper—without which it would have been considered very unsavory if not unfit to be served. As served, however, it was pronounced excellent—*muy sabroso*—by all our party, and the cooks were made happy by knowing that their culinary efforts in our behalf were duly appreciated. Truth to tell, it was just the dish designed to appease the cravings of the stomach of the weary traveler after a long journey in the light, crisp atmosphere of the mountains.

Any one but a gormand would have been quite satisfied with a dish of puchero, but not so the members of my escort. The rich and abundant puchero but whetted their appetites for the picantes which were next in order.

There was *calapulcra*—a mixture of hashed meat and potatoes; *lagua*—a compound of pork and corn meal; and the *picante de ullucos*, made of a native root that somewhat resembles the potato. All picantes are distinguished by their red color and the large amount of red pepper—*chile colorado*—used in their preparation. Some of the dishes served us were given a bright vermilion tint by the liberal use of achote grains. After the picantes came a peculiar fruit salad, a heterogeneous mixture of several kinds of fruits stewed in water.

All the foregoing creations of the culinary art—and none of them were allowed to pass by untouched by my hungry companions—were topped off by divers kinds of dulces. How any of them were able to sleep after thus overcharging their stomachs I cannot imagine. Some of them, I learned the next morning, suffered greatly from nightmare and I observed, on the following day, as I had on many previous occasions, that the heaviest eaters were far from being the best travelers. Indigestion is always the penalty of gorging, but the penalty following an outraged stomach is manifested sooner in the mountains than elsewhere.

From Tambo Mayo, of which I shall always retain a pleasant memory, we started betimes the next morning for Celendin, an important town some thirty odd miles distant. Our path was over a high mountain-range, described by Garcilaso as that inaccessible snowy chain that was untrodden by man or animal or bird, and which, in the language of the Incas, was known as Ritisuyu—the line of snow.¹ I was told that I should find it extremely cold at the summit of the sierra and our arrieros spoke of the cumbre, as we should speak of a frigid pass within the Arctic circle.

After a steep climb of three hours, we were on the highest point of the much dreaded *puna*—a place which bears the name of *Puna-pishgo-guayuna*—the cold place where the birds die. But so far was the place from deserving this epithet that I saw hundreds of birds of various species, some of them charming songsters, on the very crest of the sierra. And there were no wintry blasts as I had been led to anticipate, nor was there even a trace of snow. Far from it! There were verdure and flowers to the highest point of the cumbre, and the lowest temperature registered by my thermometer was only 46° F.—but two degrees below the lowest point indicated by the mercury when I passed the crest of Suma Paz in Colombia.

My barometer indicated an altitude of eleven thousand and eight hundred feet,² but so gradual had been our ascent from the Pacific that the elevation produced no perceptible effect on the respiration. As to temperature, it did not appear to me to be lower than that of an average October day in New England. And yet our arrieros and peons shivered and complained of the cold, and made haste to get to a lower altitude. But I was not surprised at this. I had often witnessed the same sensitiveness on the part

¹ “Aquella nunca jamas pisada de hombres, ni de animales, ni de aves, inaccesible cordillera de nuves, que corre desde Santa Marta, hasta el Estrecho de Magallanes, que los Indios llaman Ritisuyu, que es vanda de nieve.” Op. cit., Lib. I, Cap. VIII.

² Middendorf makes the altitude nearly two hundred feet higher.

of my peons to slight changes of temperature in other parts of the Cordilleras. One reason of this sensitiveness is that they are poorly clad, and often half famished. Another, and probably more potent reason, is that the inhabitants of the tropics are far more sensitive to slight changes of temperature than are the people of higher latitudes. And one need not be in the equatorial regions long before one finds oneself affected in the same way as the natives in passing from *tierra caliente* to *tierra fria*, or vice versa.

About an hour's ride down the eastern slope of the sierra, we stopped at a little *choza*—hut—for breakfast. This humble habitation, not more than ten feet square, and so low that we could scarcely stand up in it, was the home of a young widow with six children. Her husband, a half-caste like herself, had died the preceding year, and she was left alone with her large and helpless family on this bleak and inhospitable puna. And yet she did not complain. On the contrary, she and her little ones seemed to be quite cheerful and to enjoy life after a fashion. She managed to eke out an existence and support those dependent on her by selling *chicha*, eggs and chickens, to the passer-by, but how they could all find breathing room in their little hovel, which also afforded shelter for a number of dogs and a score of *cuyes*—guinea-pigs—¹ was a mystery to me.

It was here that I was specially grateful for the hamper that Sra. L—— had so kindly provided me with on leaving Cajamarca. Among its contents, besides a liberal supply of bread and fowl, were some delicious biscuits, fruitcakes and dulces. The cakes and dulces I distributed among the children of my hostess, and it was a delight to see how much the little creatures enjoyed their unexpected feast. It was probably the first time they ever had such delicacies and they were, for the time being, the

¹ An indigenous animal, called *cuy* in Peru, and *conejo*—rabbit—in Bolivia. Before the conquest, it was much used in sacrifice and divining. "*El Sacrificio ordinario*," Padre Arriaga informs us, "es de Cuyes de los cuales se sirven mal, no solo para sacrificios, sino para adivinar por ellos con mil embustes." *Extirpacion de la Ydolatria del Peru*. Cap. III, Lima, 1621.

happiest children in the sierra. Their isolated condition and cheerless surroundings were forgotten in the joy of the moment, and they snuggled together around the passing stranger as if he had been a life-long friend.

When luncheon was over and we prepared to renew our journey the little tots were loath to let me proceed. They clung to me and begged me not to leave them. "*Quedese con nosotros, Señor,*" said the oldest of the children, a sweet little girl about ten years of age. "*Aquí esta, su casa*"—"Stay with us, sir; here is your home," and she pointed to the little wattled ichu-thatched *chosita*, where we had taken our noonday repast.

Dear, innocent children, how my heart went out to them, as I took my leave of them, and to their good, brave little mother, whose touching words *Adiosito pues, hijito*,¹ were both a farewell and a benediction, whose accents were as music in my ears for days afterwards. What Stevenson wrote of the Polynesians could with truth be reiterated of the simple good Indians and mestizos of the Peruvian Cordilleras—"They are easy folk to get in touch with, frank, fond of notice, greedy of the least affection, like amiable fawning dogs."²

We arrived at Celendin at four o'clock in the afternoon, having made far better time than we anticipated, considering the rough mountain trail over which we were obliged to travel. Our speed was due to the splendid mounts that had been provided for us by the generous prefect of Cajamarca. With ordinary animals, we should not have reached our destination until after nightfall.

We were most cordially welcomed by the sub-prefect of Celendin, who had been advised of our coming by one of our Cajamarca friends. He at once conducted us to the com-

¹ Both diminutives in this phrase are terms of affection and endearment, such as are frequently used by the people of Peru. The meaning is, "To the dear, good God, then, my own little son." These words were a mother's recognition of a little kindness shown to her darling children. I need not say that I felt richly rewarded.

² *The South Seas*, p. 7, New York, 1906.

fortable lodgings that had been prepared for us, and then, learning that it was our desire to proceed on our journey the following morning, he lost no time in showing us the chief objects of interest in the city.

Celendin, although little more than a century old, having been founded in 1802, counts about four thousand inhabitants, most of whom are engaged in agriculture, stock-raising and in the manufacture of the so-called Panama hats, for which the place is quite famous. Indeed, the people of Celendin boast of making the best hats in the republic, but the inhabitants of Rioja and Moyobamba contend that the hats manufactured in their towns are far superior to anything that is produced in Celendin.

The material of which the Celendin hats are made is brought from the eastern versant of the Andes on the backs of mules and donkeys, and a very large supply of it is required to meet the demand. The hats that are shipped to Europe and the United States usually reach the market by way of Panama, and hence the name of "Panama hats," by which they have so long been known.

When I arose the following morning, I found a crowd of sick people at my door waiting to see "The Doctor." They had heard someone address me as *Señor Doctor*, and concluded at once that I was a physician or surgeon, or both. All the lame and halt and afflicted in the town had gathered in front of my lodging and patiently awaited my appearance. As there was no doctor nearer than Cajamarca, the poor people looked upon my arrival as providential, and flocked around me in the firm hope of receiving relief from their divers infirmities.

When I was apprised of the peculiar condition of things, I had not the heart to undeceive the poor sufferers who had flocked to me for assistance. I accordingly brought my medicine case into requisition and wrote out prescriptions according to the needs of my unexpected patients. I was glad there were no laws in force against practicing without a license, and glad, too, that I happened to have

just the medicines that were required by the ailments I was called upon to treat. If all did not find relief from my prescriptions, I am sure none of them suffered any harm. Among my patients was a nonagenarian, who was slowly dying of old age, without apparently being aware of the fact. The poor man begged for a prescription for some imaginary trouble, and, as I did not wish to tell him that his case was hopeless, and that I could do nothing for him, I gave him a half pint bottle of salt water, slightly colored with a little claret, and labeled, R| Sodii Chloridi ʒi. Vini Rubri ʒi. Aq. qs. dd. ʒiii. The *viejecito*—the dear old man—as his neighbors called him, went away rejoicing, and if imagination and suggestion availed anything, I am sure he felt at least a temporary relief from his fancied disorder.

As at Cajamarca, so likewise at Celendin, a party composed of the sub-prefect and a number of others, accompanied me some miles on the way to my stopping place for the night, which, in this instance, was the little pueblo of Balsas on the east bank of the Marañon. When the time of parting came, and the usual words of "farewell" had been pronounced, the sub-prefect, who was the personification of courtesy and kindness, clasped my hand warmly and said, "*Hasta otra vista; en mi Ud tiene un amigo*"—"Until we meet again; in me you have a friend."

The magic effect of a kind word! No one can realize it so well as the traveler in a strange land, and among a people on whose attention he has no claim. But how often did I not have reason to make this reflection during my wanderings in Peru, where everyone, from the humblest Indian to the noblest scion of a Spanish grandee, was ever ready to perform acts of kindness and shower favors upon me when least expected?

Shortly after leaving the sub-prefect and his friend, we began the ascent of another mountain range—the sierra that borders the west bank of the Marañon. We had spent nearly two hours in laboriously scaling the precipitous flank of the sierra when, before I expected it, we were standing

on the *cumbre* nearly ten thousand feet above sea level. And, before I had time to view the prospect before me, one of my escort, who was familiar with this part of the country, pointing his finger to the eastward, exclaimed, "*Alli esta el Marañon*"—"There is the Marañon!"

And so it was. At the bottom of a mighty gorge executed in hard, metamorphic rock, by titanic forces acting through untold æons, was the famous father of waters that I had so longed to see, and the first glimpse of which I had looked forward to with such eager anticipation. From where we stood it seemed like a narrow, luminous band, and was far from resembling the broad river that fancy had pictured. And so bright was the sun, and so clear was the atmosphere that the bounding current appeared to be but a stone's throw from the position we then occupied. For similar reasons, the opposite side of the stupendous channel seemed to be within reach of a gunshot. But long familiarity with the mountains had taught me that nothing is more deceptive than distance in a diaphanous atmosphere, with gigantic objects in the field of view. And the sequel will show that I was not mistaken.

Lieutenant Maw, of the British navy, who was the first Englishman to cross the continent by way of the Amazon, was so enthusiastic about the view which greets the traveler at the point where we first saw the Marañon—the name given the upper Amazon—that he writes: "I cannot conceive that anything on earth or water could exceed the grandeur of the scenery, nor do I believe any person capable of describing it justly."¹

The scenery is indeed magnificent, and no one can contemplate it without being deeply impressed. The gorge of the Marañon does not, it is true, exhibit the superb coloring that distinguishes the noted cañon of the Yellowstone, nor the precipitous cliffs which characterize the Grand Cañon

¹ *Journal of a Passage from the Pacific to the Atlantic, crossing the Andes in the Northern Provinces of Peru, and describing the River Marañon or Amazon*, p. 45, London, 1829.

of the Colorado, but it is, in many respects, more imposing, and excites emotions that neither of the other marvels of nature is competent to inspire. The *quebrada* of the Marañon is much deeper than the great cañon of the Colorado river, although the latter channel is so deep that, if Mt. Washington were placed in it, its summit would be a thousand feet below the upper brink of the cañon.

When I first saw the Marañon, the sun had so far declined that the western side of the gorge lay in a shadow that here and there was intensified by dark bushes and clumps of trees laden with myriads of orchids and epiphytes, some a mass of vari-colored foliage, others floral clusters of richest bloom. On the opposite side of the river, the warm light of the tropic sun fell on broad stretches of multi-colored rock, which, in the distance, looked like rare old tapestries that Nature's cunning hand had spread over ravines and hung from precipices. There was an endless series of curiously carved peaks and buttresses, of picturesque glens and rising vales, over which the color ran in countless modulations of pearl and rose, of saffron and olive, of lazuli and sapphire. Below the landscape was suffused with vague hues of varying intensity; above were shadows of gathering cloud-flecks that scurried across the azure canopy of the sky. But along the distant sky-line cloud and rock were confounded and the whole landscape shimmered before us like some magic phantasmagoria, that had been prepared for our entertainment by the genius of the Marañon.

We lingered long in the contemplation of this marvelous picture of scenic splendor, and experienced the same exquisite pleasure as must have thrilled the bosom of the conquistadores when their eyes first rested on this greatest of rivers. But, like all first experiences, our emotion on beholding the Marañon was something that can never be repeated. It was like a first love that touched a virginity of sense—something unique, ineffable.

Our ecstasy was broken by the words of our arriero who,

fearing that darkness would overtake us before we should reach our destination, cried out, "*Vamonos, Señores, hay mucha bajada*"—"It is time to go, gentlemen, there is a long and steep declivity to descend."

He was right, and it was well that he called us from our fine, careless rapture, or we should have been obliged to spend the night *à la belle étoile* somewhere on the precipitous slope of the deep gorge we were about to enter. I knew that we had a long tiresome ride before us, but, notwithstanding all my experiences in mountaineering, my judgment respecting time and distance was, in this instance, completely at fault.

The descent of Quita-Sol, the day before our arrival at Cajamarca, had been arduous enough both for man and beast, but it was easy in comparison with what we had to endure in this *bajada* of the Marañon. Hour after hour we continued on the steep, zigzag trail without apparently making any progress. The river below seemed to make sport of our efforts to reach it and appeared to recede from us as we approached. Even after riding several hours, we seemed to be no nearer our goal than when we started. Presently the sun had reached the crest of the sierra in front of us and then darkness came on apace. Fortunately, the clouds that threatened to make further progress impossible, soon vanished, and the moon and stars appeared with unwonted brilliancy. This was something, but at times their kindly light was cut off from us by overhanging cliffs or narrow, deep ravines, through which our mules felt their way, as if their nimble feet were endowed with a peculiar sixth sense denied to mortals. Our feelings were, then, I think, akin to Dante's while groping his way down the treacherous and dismal slopes of Malebolge, or to those of Æneas when he and Cumæan Sibyl

"*Ibant obscuro sola sub nocte per umbras*"¹

¹ "Through shadows, through the lonely night they went."

in quest of the shade of Anchises in the realms of Dis.

Never before did I so long for light as during this fearful journey in the deepening gloom, and when, finally, we emerged from the obscure chasm, through which we had perforce to pass, and were again in view of the beneficent queen of night, I instinctively broke forth into Newman's beautiful words,

“Lead, kindly Light, amid the encircling gloom,
 Lead Thou me on!
 The night is dark, and I am far from home—
 Lead Thou me on!
 Keep Thou my feet; I do not ask to see
 The distant scene,—one step enough for me.”

At length, however, we were at the bottom of the gorge. Before us was the Marañon and hard by was a steel suspension bridge recently erected, that spanned its impetuous waters. The bridge was soon crossed and a short time afterwards we were before the governor's house in Balsas. We were nearly a mile and a half lower than when we began our descent into the gorge, and the little pueblo that seemed but a stone's throw from the precipice, whence we caught our first view of the river, was reached only after eight hours of hard, continuous riding.

Both men and animals were tired and hungry, but, as the sub-prefect had telegraphed the governor announcing our arrival, we had reason to believe that he would be prepared to receive us. But he was not at home, and the telegram, which had been sent him was, for some unaccountable reason, delayed in transmission, as often happens in our own country, where the telegraph is sometimes no speedier than our district messenger boy.

But, as luck would have it, the local telegrapher was present and, recognizing our necessities, at once kindly put the telegraph office—a large and commodious building—at our disposition. Without delay he ordered grass to be brought for our tired mules, and in a few moments more he

had several bright, young Indian women preparing our evening meal. Had I not had frequent evidence before of their culinary skill, I should have expected to remain fasting for at least an hour or two after our arrival. But scarcely had we finished the ablutions, which our long, dusty journey rendered imperative, than we found a well-prepared and substantial repast awaiting us. Needless to say all did full justice to it, and not long after were sleeping as soundly as if couched in the palace of the god of dreams.

We were in the saddle earlier than usual the next morning, as we had a long ride ahead of us before reaching Tambo Viejo, where we purposed spending the night. After skirting the Marañon for a short distance, we deflected to the right and followed a small stream that had its source in the mountains to the east of the river. During the early part of the day, owing to our comparatively low elevation, it was quite warm, and in marked contrast to the temperature of the mountain heights. But, as we continued our climb up the precipitous slope, which rises above the eastern bank of the Marañon, the mercury gradually dropped until the temperature was quite agreeable.

Outside of the agave and various species of cactus, conspicuous among which were splendid specimens of the large candelabrum cactus, there was little vegetation, and the region through which we passed, except along the water-courses, was almost treeless. But the landscape was not, therefore, without interest. The various rock formations, the curiously tilted and contorted strata, the effects of long continued erosion, were quite sufficient to keep the mind occupied, and to supply it with matter for speculation. A professional geologist would have reveled in the scenes that defiled before us on our long way up the mountain, and he would have found himself at every turn propounding new theories to account for the strange phenomena that unceasingly arrest one's attention.

After twelve hours of uninterrupted riding we arrived at Tambo Viejo, which, as we stood on the western side of the gorge the day before, seemed but a gunshot distant. And yet to traverse the distance between the two points necessitated twenty arduous hours in the saddle. But this is not all. Near the crest of a mountain to the eastward, which we saw the day before, and which seemed to overhang Tambo Viejo, stands Chachapoyas, whither we were bound on our way to Moyobamba. But near as it then appeared, and notwithstanding our twenty hours' ride towards it, it was still three long days' journey to the east of Tambo Viejo. Thus deceptive are distances in the diaphanous atmosphere of the Cordilleras.

Tambo Viejo—the old tambo—is nothing more than a shed where travelers may find shelter from the rain. There is not a single human habitation within miles of it where provisions can be procured. We were now entering the part of the country where the traveler must depend on such food supplies as he may have brought with him. Thanks, however, to our Cajamarca friends, we were well provided for, not to speak of the stores which we had brought with us from Lima.

When we arrived at the tambo, it was empty, and we prepared to make it our resting place for the night. But scarcely had the necessary preparations been made, when a large party of men, women and children, among whom was a family on their way from Lima to Chachapoyas, came along. As the tambo was not large enough to shelter all, I had my tent pitched near by, which I occupied with the chief officer of my escort. The arrieros and peons had to be content to sleep on their *esteras*—mats—in the open air. Fortunately, it did not rain, but everyone complained of the bitter cold, although my thermometer never registered a lower temperature during the night than 46° F. This, however, was really cold for those who were thinly clad and who had come from warmer climates. It was then that I learned the value of the snug sleeping bag, that

belonged to my camping outfit, for I was as comfortable as if I had been in a German feather bed.

It was interesting that evening to watch the cooks while engaged in preparing the evening repast for the various parties that were congregated in this spot. Most of them were satisfied with a dish of chupe and some fruit. The *pièce de résistance* of my dinner was a rasher of Chicago bacon, garnished with fried potatoes. This, with some of the good things still left in Señora L——'s hamper, made a feast fit for a king. Bacon never seemed so toothsome as on this occasion, and was, I then thought, quite as worthy of the honors of knighthood as ever was—if one chooses to believe the story—that famous loin of beef at the hands of James I.

Most of the wayfarers retired to rest shortly, after partaking of their dish of chupe, but, although the moon had not yet arisen,

“The azure gloom
Of an Italian night, where the deep skies assume
Hues which have words and speak to ye of heaven,”

laid a spell on the spirit and was an invitation to stroll along the mountain path which led towards fantastic, aërial piles, from which were dimly reflected our dying campfires.

My surroundings were romantic in the extreme and kindled the imagination as would the entrance into the penetralia of fairyland. But I had not proceeded more than a few score paces when a peculiar music broke upon my ear. It proceeded from one of the rocky pinnacles that were barely discernible in the distance, and I at once recognized it as the pathetic, melancholy notes of the *quena*, which I had so frequently heard in the southern part of Peru.

The *quena* is the flute of the Quichua Indian and is rarely heard, except in the sierras. By the aid of this instrument the Indian gives expression to his sorrow and to the tribulations of his afflicted spirit. At times the plaintive tones

are the outpouring of the woes of parted lovers and in one of the songs often heard, the sentiments expressed are voiced in words of which the following is a translation :

“When the sun rises in brilliancy,
When it sets in gaudy lights;
When the moon and stars come forth,
I shall ever be thinking of you.
O do not for a moment deprive me
Of these enchanting thoughts.
Adieu! beloved one of my life,
You will hear me mourning in the winds.”

More frequently, however, the notes of the quena tell of the woes of a conquered and oppressed race. But it is rarely that these dolorous tones are heard during the day. The descendant of the Incas awaits the nightfall, and then, Philomela-like, he betakes himself with his quena—the symbol of his melancholy character and of his unfortunate people—to some solitary spot where all nature is in repose and where he may call forth the tender accents of his cherished instrument without fear of interruption. The quena, indeed, is to the Indian of the Peruvian plateau what the *Super flumina Babylonis* was to the children of Israel. The burden of the quena, as I heard it that night on the crest of the Andes, like the song of the Hebrew exiles on the banks of the Euphrates, was *Sedimus et flevimus*—we sat and wept—when we remembered the departed glories of the land of our birth.

The melancholy musician had in me an attentive, though unobserved listener, as long as his doleful notes awoke the echoes of the mountain heights. He proved to be one of our party, and a son of Cuzco, who, immediately after his evening repast, had retired to this solitary spot to give vent to the emotions of his soul and relieve his sad heart by evoking tones that told of the sorrows of his race, and recalled the erstwhile glories of the Inca Zion, the sacred city of the Children of the Sun.

We struck our tent the following morning just as the rising sun was tinging the rocky pinnacles around us with crimson and gold and were soon on the way to Leymebamba, our day's objective.

"The views before us this morning," I transcribe from my diary, "are of rarest magnificence. It is 'scene after scene, picture after picture, glory after glory;' such as one may behold only in the higher regions of the Cordilleras. The narrow sunbeams, passing through the peaks of the sierra ahead of us, smite upon the ochreous precipices to the west of the Marañon and glow into various shades of vermilion and Venetian red, while the white and gray strata below them gleam with rose and amber, purple and amethyst. Far down below our path is a verdant dale, where some lover of wild nature has made his home far from the haunts of men. It is the only inhabited spot for miles around. The garden of verdure, circled by walls of barren rock, is like an emerald encased in gold and arrayed in the hues of the rainbow."

"Then there are the night mists arising from the depths of the valleys and ravines and forming lake-like expanses and windless seas that all but submerge the countless islanded summits which are waiting to greet the lord of the day. But as the shafts of light become broader and strike the undulating surface that encompasses the ridges and crests below our path, the silver surges break and vanish, but only to reappear and rally in the deep clefts and winding valleys, whence floating still upwards they couch in quiet masses, iridescent with the morning light, upon the broad breasts of the higher hills, whose leagues of massy undulation will melt back and back into that robe of material light, until they fade away, lost in its luster, to appear again in the serene heaven, like a wild, bright, impossible dream, foundationless and inaccessible."

The ever-changing landscapes were such as would have delighted the artistic souls of Titian, and Corregio and Tintoret, while the marvelous effects of light and shade,

and the interminable play of sunshine, were of a kind to enrapture a Cuyp, a Rubens, a Claude. How I yearned, while contemplating these visions of delight and glory, for the pen of Byron, whom Ruskin has so aptly characterized as "the most accurate and powerful of all modern describers," or the magic brush of a Turner, not, indeed, adequately to describe or transfer to canvas what I beheld—that were impossible—but merely that I might have something of a record of what, at the time, were my impressions and emotions.

Almost before I was aware of it—so rapt was I in the contemplation of the enchanting vistas that constantly arose before us as we silently pursued our course "In the sweet air made gladsome by the sun"—we had attained the crest of another sierra, where the Indian speaks only with bated breath. It was the Cumbre of *Calla-Calla*—hush-hush—a place held by the Quichuas in special veneration, as were all lofty eminences in the times of the Incas.

On the highest point of *Calla-Calla*, near our pathway, I observed a large, rocky pinnacle surmounted by a cross. This did not specially attract my attention, as I had frequently seen crosses in other parts of Peru on the loftiest peaks. There is one, for instance, on a pinnacle overlooking Calera pass, the greatest elevation of the Oroya railroad. There is likewise one crowning the volcano of Mount Misti, near Arequipa.

What, however, I did find deserving of notice, was a peculiar mound near where the cross was erected. It was what the Peruvian Indians call *apachitas*¹—a kind of adoratory or shrine of pagan origin, at which the Quichua

¹ Also called *apachetas* or *apachectas*. The correct form, according to Garcilaso, is *apachecta*, and "means that which is raised, but, in conformity with the idiom of the language, as we before said, the Indians include much in one word. By this word they intend to say 'We give thanks and make an offering to Him who enables us to raise this burden, giving us strength and vigor to ascend such rugged heights as these.' They never used the word until they had reached the summit of the pass, and, for this reason, the Spanish historians say that they called the summits of the passes *apachitas*, because they were heard to say this *apachecta*." Op. cit., Lib. II, Cap. IV.

wayfarer is wont to make some kind of offering. It is usually a small stone or pebble. Sometimes it is a quid of coca, or a handful of earth, or a worn-out sandal or *alpargata*. One of our peons added a pebble to the pile, while another cast on it a bunch of green grass which he pulled from the wayside.

Originally, Padre Arriaga informs us, these apachitas were nothing more than idols to which votive offerings were made as a thanksgiving for relief from fatigue, or in order that the one making the offering might receive from the spirit of the place strength to carry his burden.¹ So far as I could learn, the custom is now more a matter of habit than anything else, and is usually devoid of that superstitious character which it possessed in the time of the Incas, except, possibly, in the southern and middle parts of the republic where apachitas are much more numerous than in the northern part.

These apachitas, peculiar though they may seem at the first blush, have their counterparts in other parts of the world, notably in New Mexico and Arizona, where similar stone heaps—*tapu*—are found in and around many of the Indian pueblos. Their existence, however, does not imply that there was ever connection between the Indians of Peru and New Mexico, as some have imagined, for similarity of customs among peoples widely separated does not necessarily indicate community of origin.

The same may be said respecting the crosses everywhere observable on the more conspicuous eminences of Peru. Something analogous obtains in all parts of the world, and has its origin in the earliest religious observances of our race.

“It was customary in the Middle Ages,” writes Lanciani, “to consecrate the summits of hills and mountains to Michael, the archangel, from an association of ideas that needs no explanation. Similarly, in classical times, the Alpine passes had been placed under the protection of

¹ *Extirpacion de la Ydolatria de los Indios del Peru*, p. 37, Lima, 1621.

Jupiter, the Thunderer, and lofty peaks crowned with his temples. Without citing the example of Mont Saint Michael, on the coast of Normandy, or of Monte Gargano on the coast of Apulia, we need only look around the neighborhood of Rome to find the figure of the angel wherever a solitary hill or a commanding ruin suggested the idea or sensation of height. *Deus in altis habitat.*"¹

It was the same in Greece, in Judea and other Semitic lands, where the cult of high places was evidenced by the erection of shrines and temples on the summits of hills and mountains. Among the Assyrians, as is attested by certain cuneiform inscriptions, *Ekur* or *Ykur*—mountain-house—signified both God and his temple. *Bel* is synonymous with "great mountain," and the sun-god appears under the symbol of a sacred mountain. And so strongly does this fact appeal to the Peruvian scholar, Pablo Padron, that he uses it as an argument in support of his theory of the Sumero-Assyrian origin of the Quichua and Aymara languages of primitive Peru.

The altitude of Calla-Calla, the third high sierra which we had crossed since leaving the Pacific, is but little more than a hundred feet lower than Puna-pishgo-guayuna—the cold place where the birds die. The temperature of the two summits was, strange to say, identical, viz: 46° F. This was the lowest temperature I found anywhere in the Cordilleras during all my wanderings among them. At no time had I ever suffered from cold, although my ill-clad companions always complained of the low temperature of the mountain passes²—and at no place, excepting on

¹ *Pagan and Christian Rome*, pp. 226-227, Boston and New York, 1893.

² The pass of Chirmas-cassa—the harmful ice—where three hundred of the Inca Yupanqui's men were frozen to death during his campaign against the Chachapoyas, could not have been far from Calla-Calla. "A great mass of snow," says Garcilaso, "suddenly fell and smothered them, so that not one escaped." *Op. cit.*, Lib. VIII, Cap. II. This snow-fall, I cannot but think, must have been a most unusual occurrence, but the memory of it had probably much to do with the belief, current among the early Spanish chroniclers, in an inaccessible mountain chain, extending from Santa Marta to the Strait of Magellan, that is never trodden by man or animal or bird.

the lofty mountain peaks, did I ever see snow on the ground save in the immediate vicinity of the Galera tunnel of the Oroya railway. This point is just above the line of perpetual snow, which, in the Andean range from Panama to Bolivia, has an average altitude of a little more than fifteen thousand feet.

Crossing Calla-Calla, I observed the same peculiar features in the landscape that had so much impressed me on the crest of Suma Paz in Colombia. On the western side of the sierra, outside of occasional clumps of trees and patches of verdure along some mountain stream, all was bare rock and arid soil, with nothing to relieve the eye but a stray aloe or cactus. On the eastern slope, however, there was a wealth of vegetation of every kind. But what specially impressed me were the delightful green pastures, which reached to the very summit of Calla-Calla on which were grazing large numbers of sheep, cattle and horses. And at every turn, as we began our downward course towards Leymebamba, there were clear, rippling streams just starting on their long journey to the distant Amazon, and charming cascades around which were gathered banks of flowers of many gorgeous colors, while in the dim distance were

“A thousand shadowy-pencill'd valleys”

that extended upwards to the faintly-flushed peaks of the Cordillera. And high above us were circling condors gliding through space with outstretched pinions that were almost motionless.

About two hours before sunset we were in the small town of Leymebamba, where we were hospitably received by the governor. As a lodging place for the night, he gave us the choice of quarters in his own house or in the *casa de ayuntamiento*—town hall—or in a newly constructed school house. We elected the latter as offering more privacy, and here we enjoyed a good night's rest. But I shall always recollect Leymebamba as a place where our arriero

had exceeding difficulty in getting the necessary *pasto*—forage—for his animals. Of all the places we had yet visited it was in the words of Homer,

“Fatter far to feed
A cliff-bred goat, than raise or please a steed,”

for it, like Ithaca of old,

“Doth least provide
Or meads to feed a horse, or ways to ride.”

The day after leaving Leymebamba we journeyed down a picturesque valley, in which there were many *chositas*—cabins—surrounded by beautiful green fields betokening a soil of great fertility, but that which most interested me was the marvelous profusion of orchids everywhere visible. Every ledge of rock, every tree and bush, even every thorny cactus, was laden with them and seemed but a blaze of rose and purple and lavender. Nowhere else had I ever seen such magnificence of orchid life, and never did I so long to make a collection of these floral beauties, as I did on that never-to-be-forgotten day. But I was not equipped for making such collections, and so had to be satisfied to enjoy them where they had been planted by the deft hands of Flora, or placed by the piety of the Indians, who made lovely bouquets of them for their numerous shrines along the way. It was, indeed, touching to see the care which these poor people took in supplying their favorite *Santos*—saints—usually *la Virgen Santísima* or *San José*, with fresh orchids, not once but several times a day. Some of the shrines and statuettes within them were fashioned with considerable artistic taste, but the rich *ramillete* of orchids, generally some lovely delicately-tinted *Cattleya*, was never missing.

Our next stopping-place was a small *caserio*, counting only five or six houses, called Chillo. From this place we started early the following morning for Conde Chacha, a charming little village on the banks of a broad mountain

stream. Here we had our breakfast, after which we felt refreshed and ready for the remaining part of the day's journey, which was to bring us to the historic town, the inhabitants call it *Ciudad*—City—of Chachapoyas.

Chachapoyas—from Chachapuya—means, according to Padre Valera, “a place of strong men.” “Before its conquest by Tupac Inca Yupanqui, the province bearing this name, was peopled,” Garcilaso tells us, “by a numerous race of brave men and very beautiful women.” So beautiful, indeed, were the women, that Cieza de Leon assures us that “many of them were worthy to become the wives of the Incas, or the inmates of the temple of the sun.”¹

The present city of Chachapoyas was founded in 1536 by Captain Alonzo de Alvarado under the name of *Ciudad de la Frontera*. It is located near the foot of a lofty sierra, in the midst of a fertile and salubrious region, at an altitude of little more than seven thousand feet. It numbers about eight thousand inhabitants and, when connected with the contemplated railroad between Paiti and the Amazon, will be a place of great commercial importance. It is the seat of a bishopric and the capital of the department of Amazonas. Besides the cathedral, it counts seven churches, and two chapels. It has a diocesan seminary and a number of well-conducted schools for the youth of both sexes. The houses are mostly of adobe, with tiled roofs. Altogether, the place makes a favorable impression on the visitor, an impression which is greatly enhanced by the cordiality and charming manners of its people.

I went directly to the prefectura, where I was at once received and treated as a member of the family. The *Señor Prefecto*, who was of Spanish descent and well advanced in years, was a typical gentleman of the old school. He had all the courtesy of a Castilian hidalgo and all the chivalry of a conquistador. I loved to think that he was a descendant of one of the gallant band that accompanied Alvarado from Trujillo, over probably the same

¹ Op. cit., p. 278.

route I had myself traversed, when they set out to make the region between the Marañon and the Huallaga a part of the possessions of the King of Spain. So strongly did his amiable character appeal to me that I never recall my visit to Chachapoyas without seeing the benign visage of the gracious and generous old man, whom all his people revere as a friend and father. The two days I spent in the home of this gentle and cultured type of a past age were days of unalloyed delight, and when he bade me farewell, with the words *Dios le guarde á Ud.*, some miles outside of the city, whither he and his aid had accompanied me on my way to Moyobamba, I felt as if I were taking leave of a friend of years instead of a passing acquaintance of a few hours.

Our first stop after leaving Chachapoyas was at the village of Soloco, where we spent the night in the house of our new arriero who had supplied us with saddle and sumpter mules for our journey from Chachapoyas to Moyobamba. Shortly after our departure from Soloco, we found ourselves in the *montaña*, that forest-clad region which comprises the whole of *Peru Oriental*.

In addition to this alteration in the aspect of the landscape, there was also a marked meteorological change. When I left Casa Grande, I was assured that I should encounter an *aguacero*—a shower—before the end of the day. “*Hoy es el Cordonazo de San Francisco* ¹ *y siempre llueve à este tiempo*”—“This is the feast of St. Francis and it always rains at this time.” But it did not rain that day nor for several days subsequently. In Cajamarca, it is true, there was a slight rainfall—*aguacerito*—but, after we once entered the *Montaña*, we had what my companions called an *aguaceron*—a heavy downpour—which continued with little cessation for three days and nights.

Hitherto our pathway had been fairly good, but now it

¹ The name given by Spanish sailors to the autumnal equinox, on account of the storms that are supposed to prevail about that time, or St. Francis' day, which falls on the 4th of October.

became in places almost impassable. Over certain morasses it was the worst kind of a corduroy road, and it was a marvel to me that our animals were able to proceed without breaking their legs. In other places the trail was like a deep, narrow ditch, through which our mounts could barely force their way. While passing through these trenches the rider was obliged to hold his feet up around the pommel of his saddle at the imminent risk of breaking his neck. Then there were long stretches of bare, slippery rock, alternating with sections where our path was strewn with trees that had recently fallen. But our mules managed to clamber over or crawl under these obstructions. Besides all these obstacles, there were steep, stony stairways leading up and down dizzy precipices, where it was at times difficult for one to keep one's place in the saddle.

My companions grumbled at the weather and the wretched road, and frequently gave vent to their pent-up feelings by a vigorous *caramba* shot out between the teeth with a combination of a Scotch trill and a north-of-England burr. Once, when we had to cross a particularly marshy spot, three of them insisted on guiding their mules, against the better judgment of the animals, in a certain direction which the mules seemed to know instinctively was impassable, and, before they had gone more than a few rods, all were so deep in the bog that it was only with the greatest difficulty that we were able to extricate riders and mounts from their dangerous position. Indeed, it looked, for a while, as if both animals and men were going to disappear beneath the yielding quagmire. This mishap was particularly mortifying to the captain of cavalry and a corporal who prided themselves on their horsemanship. In this case the customary *caramba* was inadequate to express the disgust of the mud-covered officers, and they patiently continued their journey, until they found a stream of water where they could cleanse their soiled habiliments. I escaped a similar *contretemps*, because I had learned by experience to have unlimited confidence in the superior ad-

dress of my mule, and in this case, as in so many similar ones, my confidence was fully justified.

Unlike my escort, I had no fault to find with the weather. They spoke of it as bad, as execrable, but to me every day I spent in the Cordilleras was good, only some days were better than others. Thanks to my water-proof poncho, I was always able to keep dry and, far from complaining of the ceaseless downpour, I thoroughly enjoyed it. It was indeed a grateful change from the parched earth and cloudless skies, with which I had so long been familiar, to the exuberant vegetation of the *montaña* and to regions where I had an opportunity of observing the wonderful cloud-forms which are such striking features of the rainy belt of the eastern Cordillera.

Never shall I forget the second day of our journey after we left Soloco. It was between the dark, windowless tambo of Ventanilla, where we spent the night, and a still more primitive stopping-place called Tingo Ramos. Between these points, we had to cross another mountain range whose altitude was something over eleven thousand feet, where the thermometer—strange to say—again registered 46° F. as it did on the summits of Calla-Calla and Puna-pishgo-guayuna.

That day I was in the saddle eight hours continuously, and, during all that time, it rained without intermission. But as I felt then, and as I recall it now it was one of the most delightful days I spent during nearly a year's wandering in the tropics. I did not think of taking luncheon, for I never experienced the slightest sensation of hunger. I was too preoccupied with the wonderful palms and tree-ferns that adorned my path. Well did Linnæus call palms the princes of the vegetable world. But if he could have seen the wondrous tree-ferns that greeted my delighted eyes during that memorable day, vying with the palm in height and surpassing it in the length and breadth of its delicate, lace-like fronds, he surely would have named them the princesses of the plant kingdom.

I was intent, too, on studying the extraordinary effects of earth-sculpture, which gave rise to the most bizarre of rock-formations and the most peculiar of mountain contours. And then there were the countless mountain streams of crystal water, the charming cascades and waterfalls that made the virgin forest vocal with sweetest and most soothing melody.

But over and above the beauties of plant life and the wonders of rock-formation, I think I was that day more under the spell of the marvels of the sky. The ever-changing clouds presented a display of form and color I never before beheld in any part of the world. It was as if the spirit of the Andes wished, on this last range which I was to pass, to give me an exhibition of its magic power that should be the culmination of all the pleasures enjoyed while traversing its secret and mysterious recesses.

There were clouds of every conceivable form and color, now at rest, now in motion; at one time formless masses wreathing lofty peaks or draping shattered cliffs; at another enormous swirling, writhing drifts of vapor full of the energy of the storm; while yet again the tortured mists

“Called out shapes

And phantoms from the crags and solid earth

As fast as a musician scatters sounds

Out of an instrument.”

In these weird shapes of the drifting brume, in these fantastic cloud-wraiths that danced on the verge of dizzy precipices, or swept over abysmal chasms towards some cloud-mantled pinnacle high overhead, I discerned in fancy the departed spirits of Indian chieftains or Valkyrie-like figures bearing fallen heroes to the Inca Valhalla.

During the greater part of the day, whether at rest or in motion, the clouds were gray and gloomy and not infrequently collected in dark nimbus heaps that might well have been the favorite abode of the Eddic Thor. But as the day's journey was drawing to an end, the sun suddenly

broke through the misty veil that had so long concealed it from view, and for a moment flamed with a splendor that caused the landscape to glow with all the gorgeous hues of the opal and the sapphire, the topaz and the hyacinth. This, however, was but prelusive to a much more gorgeous spectacle, to a vision of one of those prismatic clouds that then swept between the sun and myself, which Ruskin has so well described as "Threads and meshes and tresses and tapestries, flying, falling, melting, reappearing; spinning and unspinning themselves, coiling and uncoiling, winding and unwinding, faster than eye or thought can follow, and through all their dazzling maze of frosty filaments shines a painted rainbow in palpitation; its pulses of color interwoven in motion, intermittent in fire,—emerald and ruby and pale purple and violet melting into a blue that is not of the sky, but of the sunbeam;—purer than crystal, softer than the rainbow, and brighter than the snow." ¹

This scene was a glorious finale to a day of dreams, of symphonies of sound and color. An hour later we were at Tinga Ramos, our halting place for the night. It consisted of three small, open, palm-thatched sheds, about six feet square and so low that we had to stoop on entering them. But they answered our purpose. They protected us from the rain and that was all we desired. I had a cot placed in one of them, preferring it, for a change, to my tent. And, shortly after our frugal evening meal I was in the realm of dreams, enjoying again all the delightful pictures that had flitted before me during the preceding day of rapture in Andean wonderland.

The succeeding day was spent in the heart of the *montaña* with no incident worthy of record. The rains continued and the roads became worse from hour to hour. The evening found us at a small caserio called *Pucatambo*, where we spent a comfortable night under a *ranchito* similar to the one which had sheltered us the night before, but larger.

Although we were refreshed by our night's rest, it was

¹ *The Storm-Cloud of the Nineteenth Century, Lecture I.*

quite different with our mules. For when they were brought to us in the morning, we found them covered with blood. Some of the pack animals were so weak that it looked for a while as if they would be unable to carry their burden any further. They had, during the night, been the victims of the blood-sucking *murcielagos*—desmodontoid bats—and one would have imagined, from their pitiful condition, that they had been the prey of the vampires of European folklore. My only regret was that I was unable to secure one of these blood-thirsty *Desmodi* for the benefit of those doubting Thomases who, like Orton, dismiss them as merely “diabolical imps of imaginative travelers.”¹

For the information, however, of those who may desire the facts in the case, I translate a paragraph from Figueroa’s *Relacion de las Misiones en el Pais de los Maynas*, which reads as follows:—

“This plague (of bats) must be counted among the general plagues that molest these lands, and the Spaniards, in order to deliver their domestic fowls from this pest, construct their poultry-roosts, so that they can be closed in, and they even build them under ground. But, even in these enclosures and subterranean coops they often find that their birds have been killed by the bats. Nor are human beings free from them when they sleep without a protective covering; for they awake with small pools of blood from the wounds which were made in the feet, hands and face.² So numerous at times are these pests, that no fowls are left alive. They do not even spare cattle, and pigs; for only recently the bats destroyed all the cattle, counting among them a large number of pigs and nearly a hundred cows.”³ And all this occurred in the very region

¹ *The Andes and the Amazon*, p. 205, New York, 1870.

² The bite of these bats is usually unobserved, as it is attended with only a slight tickling sensation, of which the sleeper is quite unconscious.

³ Pp. 247–248, Tom. I, in *Coleccion de Libros y Documentos Referentes á la Historia de America*, Madrid, 1904. Compare *Noticias Autenticas del Famoso Rio Marañon*, published by Marcos Jimenez de la Espada, in *Boletin de la Sociedad Geografica de Madrid*, Tom. XXVII, pp. 61–62.

traversed by Prof. Orton, of which he declared the bats to be only the "diabolical imps of imaginative travelers."

Nor is this all. According to the late Dr. Peters of Berlin, who was a specialist in these peculiar cheiriopters, all American bats, far from being harmless fruit-eaters, as so frequently asserted, are blood-suckers, and some of them are as great a pest to-day as they were in the time of Figueroa.

We left Pucatambo early in the morning, and after two hours' ride through a dense, gloomy forest, which was a reminder of the *selva oscura*, in which Dante found himself astray, we came to a place known as *Punta de la Ventana*—Window Point. And most appropriate is the name. It is a small clearing, nearly a mile above sea level, which stands on the verge of a precipitous declivity, from which, as from a window, the traveler has a most enchanting prospect.

Before us, and nearly three thousand feet beneath the projecting rock on which we stood, was a vast, verdant ocean, a glowing, green expanse of interminable forests, relieved by smiling savannas, and dotted with numerous towns and villages in which the wandering eye was lost in admiration and awe.

"The breaths of kissing night and day
Were mingled in the eastern heaven,"

and, in Sir Philip Sidney's graphic words, "The morning did strew roses and violets on the heavenly floor against the coming of the sun."

The picture before us was ravishingly beautiful, and my feelings, I think, must have been akin to those of Moses, when, after his long wanderings in the wilderness, he stood on the top of Phasga on Mount Nebo, and riveted his wistful gaze on the Land of Promise. And this similarity of sentiment was not without cause, for I then beheld, as I soon had reason to know, the land of milk and honey of fruitful, fortunate Peru.

CHAPTER XIX

A PERUVIAN PARADISE

After leaving Chachapoyas our bridle-way became daily worse and worse, so that at times it was almost impassable. Our arriero usually told us in the morning what kind of a road we might expect during the day, and his usual qualification for it was *malo* or *muy malo*—bad or very bad. But, as we prepared to make the descent of La Ventana, he ejaculated—*bajada malisima*—by which he wished us to understand that the path we were about to descend was execrable in the extreme.

The *bajada* was indeed *malisima*—the worst section of road by far that we had yet encountered. Only experienced mountain mules would attempt to make such a rough, precipitous descent. Even my own mule, veteran as he was, often stopped before the more difficult places in order to determine whether it was best to walk or jump or slide. At times he actually groaned when contemplating the rugged path before him. Putnam's feat of horsemanship in dashing down a precipice whither the British dragoons dared not follow seemed easy in comparison with this terrible ride down the vertiginous slope of La Ventana. But, thanks to our sagacious mules, we found ourselves at the end of nearly three hours, at the bottom of this abrupt declivity and grateful that no bones had been broken. It was decidedly the worst section of road that we had met with in our long ride from the Pacific.

After this drop of more than a half mile, we noticed a marked change in the vegetation. One of the first specimens of plant life to attract our attention was a clump of

large, luxuriant plantains. We had, it is true, frequently seen both plantains and bananas between Chachapoyas and La Ventana, but none that compared with the large, exuberant growths that give such beauty to the lowland landscapes of tropical latitudes.

Here, then, we had the first evidence of that land of promise of which we had caught a glimpse from the summit of La Ventana. For was not that bunch of fruit—so great that it required two men to carry it—which was brought by the twelve spies to the Children of Israel as a proof of the fertility of the soil of Canaan, a bunch of plantains and not a bunch of grapes, as is supposed? There are those who think so, as there are also those who aver that the forbidden fruit in Eden was also the plantain and hence the name given it by Linnæus—*Musa Paradisiaca*. At all events, I have seen in the plain of Jericho just such noble plantains as I found at the foot of La Ventana. And what a coincidence that, what was exhibited to Moses as a sample of the fruits of the promised land, should also be the first fruit which delighted my eyes as I entered the land of promise of Peru!

When we were within about an hour's ride of Rioja, my Cuzco friend, the Indian musician whose *quena* had so entertained me at Tambo Viejo, approached me and said, "*Santo Toribio, el Amigo de los Indios, ha venido por acá*"—"Saint Toribio, the friend of the Indians, came this way." It was true. This apostle of Peru had extended his missionary labors even to this distant region, and that, too, when travel was far more difficult than it is at present. But that his memory should still, after three centuries, be so green among those uncultured people for whom he gave the best years of his life, was something that made a deep impression upon me. It was, however, but another evidence, added to many similar ones which I already possessed, that the Indian is far from being ungrateful, as frequently represented, and that he appreciates at its full value what is done in his behalf. If he is slow to forget

an injury or an enemy, he is not quick, as is so often asserted, to forget a benefit or a friend.

As we drew near Rioja, we were startled by a loud, shrill sound like that of a factory or locomotive whistle. I knew there was no locomotive within five hundred miles, but I was surprised to hear a steam whistle of any kind in this distant corner of the Andes. Imagine my surprise when I discovered that the piercing note, which I had heard, was produced by a certain species of cicada, which is very common in these parts and which I frequently heard afterwards. It is said that their notes can be heard as far as a mile away, and although I had not an opportunity of verifying this statement, I am inclined to think that it is true.

This insect—*cicada tibicen*—is a distant relative of the cicada of which the poets have sounded the praises from the earliest times, and to which Anacreon, Cowper and Goethe have dedicated some of their most beautiful verses. I have never, however, been able to understand what has made cicadas and grasshoppers such favorites with poets, for to me their stridulating notes are far from pleasing.¹ Yet Anacreon in one of his odes, addressed to the cicada, does not hesitate to declare:

“Thou to all mankind art dear;
 Dear to all the tuneful Nine
 Seated round the throne divine;
 Dear to Phœbus, god of day,
 He inspired thy sprightly lay,
 And with voice melodious bless’d,
 And in vivid colors dress’d.
 Thou from spoil of time art free;
 Age can never injure thee.
 Wisest daughter of the earth!
 Fond of song, and full of mirth;

¹ Probably because they were “the representatives of the Athenians as children of the soil,” and because they informed the Muses in heaven who honored them on earth!

Free from flesh, exempt from pains,
 No blood riots in thy veins:
 To the bless'd I equal thee;
 Thou'rt a demideity."

The lofty crest of La Ventana was suffused with the last smile of the departing sunbeams when we alighted before the hospitable home of the sub-prefect of Rioja. The day's ride had been trying, notwithstanding the many interesting objects that greeted us along our pathway, but fatigue and hunger and thirst were forgotten as soon as we passed the threshold of the *sub-prefectura*, where we found the same cordial welcome that had been everywhere extended us during our long journey across the Cordilleras.

Rioja, formerly called Santo Toribio, in honor of the apostle of Peru, is located on a charming sandstone plateau nearly half a mile above sea level. It counts about three thousand inhabitants, most of whom are engaged in the manufacture of *sombreros de paja*—straw hats—known also as *sombreros de Guayaquil*, because large numbers of them, made in Ecuador, are shipped from that part. In Europe and the United States they are usually called Panama hats, while in many parts of South America, they take their name from the material—*jipijapa* or *bombonage*—from which they are manufactured.

The scientific name of the *bombonage* is *Carludovica palmata*. It belongs to the screw-pine family and bears leaves which resemble those of the saw palmetto. The plant is from five to ten feet high, and grows wild in the hot and humid regions of Colombia and Ecuador, and in the montaña of Peru the *toquilla*—filaments—for making hats are obtained from the tender, fan-shaped leaves about two feet long, which are cut from the heart of the plant just as they begin to unfold. After the green parts of the leaves are removed, the white parts which remain are divided into narrow strips and boiled in hot water for two

or three hours. They are then dried and bleached in the sun, when they are assorted and ready for use.

Every house in Rioja is a small hat factory, and every man, woman and child is a hat-maker. Indeed, hat-making is practically the sole industry of the town. Here one will find *sombreros* of every degree of fineness, from those worn by the native peons to those which are exported for royalty and plutocracy. The poorer quality of hat may be made in a day or two, while the finest variety requires the continued labor of an expert for many months. The prices vary from fifty cents to fifty dollars, according to the fineness of material and workmanship. Sometimes, however, the material is so soft, silky and pliable and the workmanship so exquisite that hats are produced that readily sell for two hundred dollars. These are so delicate and flexible that they can be folded and carried in the pocket like a silk handkerchief, without the slightest injury.

Much, however, as I was interested in the hat industry of Rioja, there were other attractions that had a greater claim on my attention. These were the wonderful exhibitions of fruit and flowers that greeted the eye at every step. Never before did I witness such a profusion of bloom, such abundance of fruit. My host gave me a list of no fewer than thirty-three domestic fruits and twenty-six wild ones—all edible—which grow in and around the town. This list embraces only the species. Many of the cultivated species have numerous varieties. Most of them I had seen in other parts of the tropics, but there were many fruits of the temperate as well as of the torrid zone that were quite new to me.

And such luscious fruits! They appeared to be the quintessence of rich juices and delicious perfumes, and worthy of being ranked with the golden apples of the Hesperides. Years before, when I first tasted the oranges of Cordoba, Mexico, I thought they were unrivaled. But they are surpassed by the nectarine fruits of Rioja. I was, of a truth, in one of those favored haunts of Flora and Pomona

“Where glowing nature seems most prodigal
Of life and beauty, where the eye beholds
Orchards that blossom while their ripe fruits fall.”

As I wandered through the fruit and flower gardens of this fair town and, in silent admiration, strolled through “Groves whose rich trees wept odorous gum and balm,” it did not require a great stretch of fancy for me to imagine that I was contemplating a vestige of the wreck of Paradise. I then recalled the vision of Frate Alberigo, the monk of Monte Cassino, who was favored with a view of the abode of the blessed. He went forth, he tells us, into a most delightful plain. “But of what extent, what glory, what beauty this splendid, sweet and charming plain is, no tongue, no language, can tell. It was filled with all pleasure and joy and delight. There is the perfume of lilies and roses, there is the fragrance of all grateful odors, there abound manna and unalloyed eternal happiness. In the middle of this plain is Paradise.”¹ Had Frate Alberigo been transported to the plateau of Rioja, he could scarcely have described better its surpassing wealth of flower and fruitage.

And here, too, is the perpetual spring of the Golden Age—*ver erat æternum*—of which Ovid so sweetly sings in his *Metamorphoses*. And, although but a few degrees from the equator, the climate is deliciously mild. At no time did my thermometer record a higher temperature than 78° F. So luxuriant was the vegetation, carpeting and scenting the earth with verdure and bloom, that it really seemed as if

“Zephyrus did breed
Sweet flowers by his gentle blast
Without the help of seed.”²

¹ *Alberici Visio*. Sec. 20, in *Osservazioni sopra l'Originalità di Dante*, p. 178, da Francesco Cancellieri, Roma, 1814.

² *Ver erat æternum*; placidique tepentibus auris
Mulcebant Zephyri natos sine semine flores.

Ovid, *Metamorphoseon*, Lib. I, vv. 107, 108.

The direct road from Rioja to Moyobamba is about fifteen miles but, on account of the heavy rains that had fallen a few days before our arrival it was quite impassable. We were, accordingly, compelled to take a circuitous route, but I was glad of this, for it enabled me to see several towns and hamlets I should otherwise have missed. In all of these the chief industry, as in Rioja, is the making of hats and the preparation of *toquilla* for shipment to Celendin.

Our path between Rioja and Moyobamba was over a comparatively level plain—smiling savannas and haciendas alternating with charming woodlands. Sleek herds of cattle roamed over the savannas and the haciendas exhibited broad acres covered with maize and sugar-cane.

The Indian corn was such as would delight the eye and the heart of an Iowa or Kansas farmer. Only once—on the banks of the Meta, in Colombia—had I ever seen a more luxuriant field of this important staple. The stalks were nearly fifteen feet high and each stalk bore two or three ears of corn. Some of them had four. So fertile is the soil and so propitious is the climate that it requires only three months from the time of planting for the maize to attain maturity. Three crops a year are common, but even four are possible. There is no fixed season for planting. The husbandman may sow and reap in every month of the year. While one man is planting, his neighbor in the adjoining field is collecting into his granary the same kind of crop. No plowing is necessary. When a clearing is effected, all that is necessary is to make a hole in the ground with a pointed stick and deposit the seed. Three months later, with but little care, the field is ready for the harvest, thus rivaling in fertility the Elysian Fields, of which Hesiod writes:

“And yearly thrice with sweet luxuriance crown’d,
Springs the ripe harvest from the teeming ground.”

There was a time when the tobacco produced in these parts, especially in the neighborhood of Tarapota, was justly famous, even in the markets of Europe. But unfortunately, the plant is now rarely cultivated and then chiefly for domestic consumption. Grapes grow wild here and the wine produced from them is excellent. The lowlands are well adapted for the cultivation of rice, but so few are the tillers of the soil and so difficult is it to find the requisite laborers, that it can be imported from China at a less price than it can be raised here. Wheat, barley and potatoes also flourish, but one rarely sees a field of these food-stuffs.

“*Faltan brazos*”—“laborers are wanting,” was the answer given to my question regarding the absence of many plants and vegetables which, considering the marvelous richness of the soil, one would expect to find here in rare abundance. The cholos and Indians, who are satisfied with little, make shift, like their ancestors, with a small *chacra*—plantation—of yucca, maize and plantains. This supplies them with all the food they require, while the ubiquitous *trapiche*—sugar-mill—provides them with the aguar-diente which is consumed in such large quantities by all classes. It is, indeed, a matter of surprise to the foreigner to see what a large amount of alcoholic liquor is used in the tropics. But its evil effects are in a great measure counteracted by copious perspiration. Half the quantity that could be taken with impunity in the lowlands, would be very pernicious in the cool regions of the sierra. Hence the old maxim, attributed to the Jesuits, “*En pais caliente, aguardiente; en pais frio, agua fria*”—“In the warm country, brandy; in the cold country, cold water.”

The woods through which we passed were a natural gallery of pictures of rarest sylvan beauty, a riot of lush, growing plants and forest monarchs. Palms and ferns, gorgeous heliconias and wild-pineapples with their rich amber-red fruits, were a succession of delights which made us quite oblivious of the passing hours. Our path under

A PERUVIAN PARADISE

the overhanging branches was like a great forest aisle dappled with flowers and sunshine. Ever and anon there was

“A flash of harmless lightning,
A mist of rainbow dyes,”

and we were then conscious of the swiftly-darting humming bird, the beauteous *colibri* which imparts such life and color to tropical nature. Then silently and leisurely there wafted before us

“Leafless, stemless, floating flower
From a rainbow’s scattered bower,”

and we recognized the glorious *Morpho cypris*, the radiant-blue butterfly eight inches across the wing, whose name recalls both the goddess of love and beauty and her cherished isle in the cerulean sea.

Further afield, in a bright, grass-covered glade, was a veritable shower of related species of every form and size and hue, some floating airily along our path with a gentle, undulating motion, others gliding with bird-like wing over a bank of flowers, others still flashing so swiftly, by that it was difficult for the eye to follow their mazy course. Instead of the plain yellows, subdued browns and dashes of red, orange and blue, that characterize our northern species, there was a brilliant display of emerald-green, cobalt-blue and flaming crimson, relieved by dark satiny borders, or backgrounds of velvety-black. Sometimes the wings were decked with scales of deepest green or red, or with spangles of burnished silver or molten gold, while at others there was an iridescent play of colors, like that of mother-of-pearl or richest opal.

It is among these numerous and vari-colored species of butterflies that one finds some of the most striking illustrations of that peculiar phenomenon of animal life known as mimicry. So closely do certain unprotected species resemble others which are protected from their enemies by

peculiar tastes and odors that even the professional entomologist is not always able at first sight to distinguish one class from the other. And so perfect is the mimicry that it extends not only to form, color and habits, but even to the dots and bands and veins of the wings. "It may be said, therefore," writes Bates, "that on these expanded membranes Nature writes, as on a tablet, the story of the modification of the species, so truly do all the changes of the organization register themselves thereon. Moreover, the same color-patterns of the wings generally show with great regularity, the degrees of blood relationship of the species. As the laws of Nature must be the same for all beings, the conclusions furnished by this group of insects must be applicable to the whole organic world; therefore the study of butterflies—creatures selected as the types of airiness and frivolity—instead of being despised, will some day be valued as one of the most important branches of biological science." ¹

But more remarkable than their beauty of color or their variety of form or power of mimicry is the extraordinary number of species of these gorgeous insects found in the tropical zone. It surpasses by far the number found in our temperate climes. So great is it that one may collect from sixty to seventy species in a single day, while in and around the city of Pará on the Amazon, the number of species already catalogued exceeds seven hundred. "When we consider that only sixty-four species of butterflies have been found in Britain and about one hundred and fifty in Germany, many of which are the result of the work of hundreds of collectors for a long series of years, we see at once the immense wealth of the equatorial zone in this form of life." ²

Not far from the butterfly glade, we came upon another exhibition of insect life which was fully as interesting as

¹ *The Naturalist on the Amazons*, Chap. XII.

² *Natural Selection and Tropical Nature*, p. 275, by Alfred Russel Wallace, London, 1891.

that of the beautiful lepidoptera just described. There was, however, no beauty of form or color in this second exhibition. Far from it. It was a termitarium—a colony of termites or white ants. It was too large to call a nest, for it was a bulky hillock, fifteen feet in diameter, and nearly eight feet high. I had often, in other parts of the tropics, seen similar ant hills, but this one was of unusual proportions and remarkable for its myriads of feverishly active inmates.

They are called ants, although they are so different in structure and habits from true ants that they belong to a different order. Termites are neuropterous, while true ants are hymenopterous insects. But the members of the two orders resemble one another in being endowed with highly specialized instincts, and in living in highly organized social communities. The white ant community, however, is usually regarded by naturalists as belonging to a higher type than that of the true ants so familiar in northern latitudes.

Although white ants inhabit all parts of the tropics it is in the equatorial regions of South America where they are most abundant and where they exhibit the largest number of species. Their nests, according to the species, are found in the branches and under the bark of trees and in peculiar paper-like structures resembling immense hornet nests. They also occur under the ground, where they construct complicated chambers varying from the size of a small basket to that of an incipient catacomb. The upper parts of these formicaries are in certain places so numerous that they look like haystacks in a harvest field, and their sugar-loaf roofs are so large that they might at a distance be mistaken for Indian cabins. If a human edifice were to bear the same proportion to one of the larger termitaria as does the size of a man to that of a white ant, it would be a mile high. And similarly, if a man's strength, in proportion to his bulk, were as great as that of a termite, he could carry nearly a ton.

But the size of the ant houses and the strength of their builders—wonderful as they are—are far less marvelous than their extraordinary numbers and social organization.

It has been calculated that the progeny of one queen ant numbers no less than fifty million individuals and that a single termitarium, occupied by several different colonies, sometimes contains as many subjects as the thickly populated Chinese empire.

More astonishing still is the fact that all the inhabitants, except the king and queen, of these busy communities are blind and always work in the dark. But it is these blind subjects, called “neuters,” because they are sexless, that do all the work of the community. They are the builders and foragers and nurses of the young ants that multiply at the prodigious rate of eighty thousand a day.

Yet, numerous as they are, there are no sluggards, or criminals or degenerates among them. All labor continuously for the common good, and with as much order and system as if they were under the direction of some governing board or communal spirit. But all is absolute individualism, for, so far as is known, there is no governing class, and yet all the beneficent effects of government are wrought out with the regularity and precision of an automatic machine. To such a community one could with truth apply the words of Sir Thomas Moore, who writes, “But in Eutopia, where every man has a right to everything, they do all know that if care is taken to keep the stores full, no private man can want anything, for among them there is no unequal distribution, and although no man has anything, yet they are all rich.”

Well then could Pliny in contemplating an ant hill, exclaim, “What reason, what power, what bewildering perfection!”¹ And it was the consideration of the extraordinary activity of ants and their wonderfully diversified instincts, that caused Darwin to declare that “The brain of

¹ In his tam parvis, atque tam nullis, quae ratio quanta vis, quam inextricabilis perfectio! *Historiae Naturalis*, Lib. XI, 2.

an ant is one of the most marvelous atoms of matter in the world, perhaps more so than the brain of man.”¹

Ah, if the people living in this favored region had only a small fraction of the energy and industry of the termites of the community just referred to, the paradise which so far has been little more than potential would soon become an actuality! Nature has provided man with a soil that is as fertile as that of the Nile valley, with a climate like that of the Fortunate Islands, and with a variety of fruit and flower, of useful plant and tree, that is unrivaled in any other part of the world.

And not only is this the case with the land in the immediate neighborhood of Rioja and Moyobamba. The same can be said of tens of thousands of square miles of land in the Peruvian montaña. The Pampa del Sacramento, that extensive territory bounded by the Ucayali, the Huallaga and the Marañon, has long been famous for its extraordinary fertility and natural resources. And yet it is comparatively uninhabited, and its value as a place for settlement is almost unknown, even among Peruvians themselves.

One of the chief reasons why it has not been colonized long since, is because it is so isolated and so far away from suitable means of communication with the rest of the world. But when the Paita-Marañon railway shall have been constructed—and the sooner the better for the promising land of Peru—her wealth and resources will be doubled and quadrupled. For there is no doubt in my mind that the future will prove that the most productive part of this great republic is the *Parte del Oriente*, that immense tract bounded by the eastern slope of the Andes and the western frontier of Brazil.

But confining ourselves to the small area of land in the immediate vicinity of Rioja and Moyobamba, the potential paradise here existent could soon be made actual if immigration were only started in this direction. And it should not, it seems, be a difficult matter to secure emigrants from

¹ *The Descent of Man*, Vol. I, p. 145. London, 1871.

Europe, where the conditions of existence are daily becoming more trying, if the proper measures were taken. The lot of such emigrants would, in the territory under consideration, be incomparably better than it is now where the struggle for life is so acute.

An electric railroad less than a hundred miles long and operated by water-power, which is here unlimited, would put this Peruvian paradise in connection with Yurimaguas, which is accessible by steamers of considerable size and draft. Two days' journey below Yurimaguas is Iquitos, on the Amazon, where there are ocean steamers for Europe and the United States.

Some of my readers may think me guilty of exaggeration in the account I have above given of this prospective paradise of Peru, but I have endeavored to describe only what I have seen and to avoid stating anything which I do not believe to be true. Here the earth, as Jerrold said of a certain part of Australia, "is so kind, that just tickle her with a hoe and she laughs with a harvest."

While indulging in the foregoing reflections, we were approaching the place we had so long yearned to see—the quaint old town of Moyobamba. When we were within about a mile of it, a young uniformed officer on horseback approached me, and introducing himself as the aid of the prefect of Moyobamba, said that he had been delegated by this functionary to meet me and escort me to the prefecture, where I was to remain as a guest until I was ready to continue my journey towards the Amazon. The prefect, the officer declared, would have come in person to greet me, but having been absent from his office, he was not aware of my coming until it was too late.

"Verily," I said to myself, "the farther one gets into the heart of Peru, the kinder and more courteous their people become." One can truthfully say of them what Ulloa writes of the old nobility of Lima, "Courtesy shines in all their actions, and their complaisance to strangers is without limits. The reception they give them is equally

free from flattery and a haughty reserve; so that Europeans, whether they visit them out of curiosity or commercial motives, are charmed with their probity, their politeness, candor and magnificence."¹

The prefect was awaiting my arrival at the front door of the *Prefectura*, and, when I dismounted, greeted me with the cordiality of an old friend. "You are welcome," he said, "to Moyobamba. But what a quick trip you have made from Chachapoyas. The prefect of that place telegraphed me that you were coming, but I did not expect you until to-morrow or the day after. Had I thought you would arrive to-day, I should have done myself the pleasure of meeting you outside the city instead of sending my aid.

"The prefect of Chachapoyas also asked me to have a number of *cargueros*² in readiness for you, as he said you desired to hasten on to Balsapuerto without delay. The *cargueros* are already secured, but I cannot permit you to depart at once, as you have planned. You must see something of Moyobamba, and you must give our people an opportunity of greeting you, at least. It is not every day that a countryman of yours comes to this distant part of Peru. In fact, so far as my information goes, you are the first writer from the United States to journey from the Pacific to the Amazon by way of Cajamarca and Moyobamba. Lieutenant Herndon, more than a half century ago, crossed the Cordilleras several hundred miles farther south and made his way to the Amazon by way of the Hualaga, but he did not visit Moyobamba. Nearly twenty years ago a traveler from your country, Major Kirby by name, reached the Amazon, on his way from Lima, by going down the Urubamba and Yucayali, a route that took him still farther away from our town.

"Few travelers seem to be willing to undertake the long journey by mule, which you have so happily terminated. In view of all these facts, and of the desire of our people of having an opportunity of making your acquaintance, I

¹ Op. cit., Vol. II, pp. 56, 57.

² Porters.

have presumed that you would be willing to modify your itinerary somewhat and accept our hospitality for at least a few days, if you cannot remain longer."

Needless to say, such cordiality was irresistible. Instead of pushing on to Balsapuerto the following day, as I had purposed doing, I spent the greater part of a week at the *Prefectura* and was glad I did so, for it gave me an opportunity of meeting some of the most hospitable and charming people that it was my privilege to find anywhere in South America.

There was a continued series of receptions and visits in the capital of the department of San Martin, and of excursions into its interesting environs. We boated on the Mayo, an affluent of the Huallaga, and visited a number of the *chacras* and *trapiches* that dot its fertile banks. Everywhere we went we found the same richness of soil, the same luxuriance of vegetation, the same multiplicity of fruit and flower that had so deeply impressed me in and around Rioja. In garden and field, in stream and forest there was the same Eden *in posse*; the same marvelous profusion of everything grateful to sight and taste and smell, which we are wont to associate with the home of our first parents as depicted in the noble verses of *Paradise Lost*.

But here, as in other parts of this favored region, as in Rioja, as in the Pampa del Sacramento, the paradise is but inchoate. Nature has done her part, but man thus far has contributed but little towards the development of its marvelous possibilities. If one seeks the reason of this neglect and of the backward condition of agriculture and other industries, one receives the same answer that is always given to a similar question in the region of the eastern Andes, "*Faltan brazos*"—"laborers are wanting." I have heard the same reply in the llanos of Venezuela and Colombia and the tablelands of Ecuador and Bolivia. Men are everywhere needed to develop the boundless resources of mine, plantation and forest; but nowhere, on this mighty continent, is there more demand for human labor than in

the montaña of Peru. And nowhere will the reward of labor be more certain, or the remuneration greater and more enduring.

But here, as elsewhere, means of communication are an indispensable prerequisite. It is on account of the lack of suitable highways of commerce that the population of Moyobamba is to-day far less than it was a generation ago, and that it is still decreasing at an alarming rate. To-day there are many vacant houses, while others are crumbling into ruins. Whole families annually leave the place, while the proportion of women to men actually living here is four or five to one.

Where are the men, I asked. "*Estan al interior*"—"they have gone to the interior;" gone to seek fortune in the rubber forests of the Purus, the Ucayali, the Napo and the Putumayo; gone to Yurimaguas, the head of navigation on the Huallaga, and to Iquitos, the enterprising and prosperous young city on the Amazon.

As I wandered through the streets of Moyobamba and saw its declining glory, a feeling of sadness came over me. How had the primeval promise and hope of the *Garden-Plain*¹ failed of fruition, or slumbered through the tedious generations! When Alonso de Alvarado planted his colony here nearly four centuries ago, he had reason to believe that he was laying the foundations of a city with a splendid future. Moyobamba has indeed the basic elements of a great city. Its elevated mesa, laved by the waters of the picturesque Mayo; its climate always salubrious and agreeable; its location in the midst of the most fruitful land in the world, all testify to the wisdom of Alvarado's choice. And so sure of its ultimate greatness was the old conquistador that he planned the city on a magnificent scale, forecasting a metropolis that in time should be a worthy capital seat of the eastern part of golden Peru.

¹ The name Moyobamba is composed of two Quichua words, Muya—garden—and pampa—plain—and is a most appropriate epithet for this Eden in the wilderness.

Even to-day Moyobamba covers nearly as much ground as Lima, though its population is but a small fraction of that of the City of the Kings. Although comprising fewer than five thousand permanent residents, it has the proportions of a great city. Its streets are broad and ample; its homes have each a spacious garden adapted to yield the choicest produce of tropical and temperate zones. Grapes are here that rival the best of Italy; citrous products, in profusion, that equal the choicest of Cuba or Mexico. And as I contemplated the splendors of flower and fruit; the lilac and magenta of the orchid; the purple of the grape and the gold of the orange, I was minded of Goethe's graphic word-picture of Sokontala. How well, indeed, it would portray Moyobamba, if Nature's lavish prodigality were even but feebly seconded by the industry of man. Thus sings the poet:

“Willst du die Blüthe des Frühen, die Früchte des Späteren
Yahres,
Willst du was reizt und entzückt, willst du was sättigt und nähst,
Willst du den Himmel, die Erde mit einem Namen begreifen;
Nenn' ich Sakontala, Dich, und so ist alles ge'agt.”¹

Goethe's illustrious countryman, Alexander von Humboldt, in speaking of the future of the Amazon basin, declared, “It is there that the civilization of the globe will be one day concentrated.”² Had he explored the eastern versant of the Andes from the Pongo de Manseriche to the southern border of the Pampa del Sacramento, he would, I doubt not, have located the capital of the world's future civilization in the neighborhood of the Peruvian Sakontala—fairest Muyapampa.

¹ “Wouldst thou the blossoms of spring, as well as the fruits of the autumn,
Wouldst thou what charms and delights, wouldst thou what plenteously
feeds,

Wouldst thou include both heaven and earth in one designation,
All that is needed is done, when I, Sakontala name.”

² “C'est là que tot ou tard, la civilization du globe doit se concentrer un jour.”

Contemplating this luxurious Eden—*Eden suntuosa*—the Peruvian poet Pardo y Alliago exclaims: “Does not such a profusion of gifts, such richness, evince that the will of God holds centuries of felicity and greatness in reserve for Peru? But to combat our negligence, He prudently reserved the completion of His work and made the harvesting of the heaven-given fruit contingent on the desire of man.”¹

The day will come, and it may not be far distant, when the dream of the poet shall be realized; when the prophecy of the man of science shall be fulfilled; when rehabilitated Moyobamba, fertile in harvests and flocks, shall be an emporium of earth's bounty and a Paradise of Delights.

¹“Tal profusion de dones, tal riqueza,
 La voluntad de Dios no hacen patente
 Que siglos de ventura y grandeza
 Guarda al Peru . . . ?
 Mas para combatir nuestra tibieza
 El fin de su obra reservó prudente;
 Y del mortal encomendó al anhelo
 El fruto cosechar que formó el cielo.”

El Peru.

CHAPTER XX

TRAMPING THROUGH A TROPICAL FOREST

The days passed so quickly and pleasantly in Moyobamba that I was scarcely aware of the flight of time. The prefect was a capital entertainer as well as a most genial host. But he was more than that. While I was enjoying to the fullest, his bountiful hospitality, he was quietly, but without my knowledge, giving directions regarding my journey to Yurimaguas.

The first part of it—to Balsapuerto—was through the dense, uninhabited forests of the montaña. This, with the exception of the first day's journey, had to be made afoot; for the greater part of the trail is impassable for horses or mules. The time usually allowed for the trip is five or six days. In the case of heavy rains and swollen rivers, a longer time is required. From Balsapuerto to Yurimaguas the traveler goes by water in a dugout, and can, when going down stream, cover the distance between the two places in two or three days.

Although I had brought with me from Lima a liberal supply of provisions for our journey through this part of the montaña, the prefect was determined that there should be nothing wanting that could contribute to our comfort and enjoyment. Accordingly, when the day of departure came, I found before the *prefectura* a dozen cargueros—cholos and Indians—who were to transport my baggage and the extra store of provisions that the prefect had ordered for the party. In addition to the cargueros there were five soldiers in charge of the bright and gallant young officer who had, as the prefect's representative, come out to meet me as I was approaching Moyobamba. These men

were to serve as my escort, to look after my tent, the preparation of meals, and the general welfare of the party during their march through the wilderness.

"These officers and soldiers," said the prefect, "are at your disposition as long as they can be of any service to you. They have orders to accompany you to Iquitos and, if you desire it, they may go with you to New York."

From what I had heard about the difficulties and dangers and delays of the journey between Moyobamba and Iquitos, I had looked forward to this part of my transcontinental trip with some degree of apprehension. When, however, I saw all that the thoughtful and generous prefect had done to minimize any possible difficulties or delays, any apprehensions I may have entertained were instantly dissipated and I now looked forward to the time to be spent in the forest and in the dugout on the tributaries of the Huallaga, as days of genuine pleasure and rarest delight. And as the sequel will show, I was not disappointed.

As had been done at Cajamarca, Chachapoyas and elsewhere, the prefect, his staff and a number of friends accompanied me several miles before saying farewell. But before he left us, he wished to assure himself that all his instructions had been carried out, and, being satisfied on this score, he called the officer in charge and the chief of the cargueros before him, and in the most earnest manner commended to their care and attention his departing guest. Indeed, had I been his own brother, he could not have been more considerate or generous, and as he pronounced the final words, "*Adios, el cielo vaya con Ud.*," I felt that I was taking leave of one who possessed in an eminent degree "all the blazon of a gentleman."

Soon after leaving my noble host, we were in the heart of the forest primeval—the German *Urwald*—and could, with little flight of fancy, imagine we were traversing the dark and trackless woods of the fore-world. Hour after hour we marched in single file over the narrow, and at times, imperceptible trail. Scarcely a word was spoken. The

Indians of the party were naturally quiet and rarely had anything to say, while my escort, probably divining my wish to be left in undisturbed communion with Nature in her mysterious and majestic sanctuary, did not make any attempt to engage me in conversation unless I spoke first. Then they were all courtesy and readily proffered all information and assistance in their power.

We stopped about noonday for luncheon, after which we pushed forward as rapidly as the condition of the trail would permit. It was over a succession of steep hills and deep ravines, and at times, by reason of much fallen timber, our progress was exceedingly slow. Fortunately, the weather from early morning until about the middle of the afternoon was all that could have been desired. The temperature was mild and the sky overhead was clear, although rarely visible on account of the thick canopy of foliage that concealed it from view.

But suddenly, dark lowering clouds appeared in front of us, and, almost before I could unstrap my poncho, the rain was falling in torrents. This forcibly brought to mind the fact, so frequently observed in the tropics, that a clear sky and a transparent atmosphere are no index of a rainless day. For frequently the heavens may be bright and cloudless in the morning, and a few hours later there will be a heavy downpour. This circumstance has given rise in Peru to the popular saying,

“En cielo de sierra,
Cojera de perro,
Y lagrimas de mujer,
No hay que creer.”¹

Finally, after a hard day's ride, we arrived at our stopping-place for the evening. We were seven and a half leagues from Moyobamba, and had made what my escort called a *jornada grande*—a long journey—so long that travelers usually give two days to it.

¹ “Distrust a mountain sky, a limping dog, and a woman's tears.”

Our tambo—tambito the cargueros called it, as it was so small—consisted of a single palm-thatched shed, open on all sides, and scarcely large enough to shelter more than three or four persons. But this did not matter. In less than half an hour two other tambitos were erected by some of the cargueros, while others were busily engaged in preparing their frugal evening repast. My tent was soon pitched by my ever-willing escort, and it was not long before our skillful cook had spread before us as appetizing a meal as any one could desire.

Never did I realize so fully, as on this occasion, what a wonderful thing it is to be able to start a fire. It appears simple to us, because modern science has removed the chief difficulties that were formerly in the way. But it was not always so. It is only when we reflect on the matter that we realize what an important step in human progress was made when man discovered the art of making fire at will. The Greeks considered it as so extraordinary that they pictured Prometheus as stealing it from heaven. And among the things that excited Darwin's admiration during his voyage around the world, was the ease with which the Gauchos of South America and the South Sea Islanders were able to start a fire by rubbing one piece of wood against another.

Owing to the difficulty of keeping friction matches sufficiently dry in the humid atmosphere of the montaña, our men used flint and steel whenever fire was required. But their skill was not so much manifested in starting a fire by this primitive method, which is employed in other parts of the world as well, as in obtaining it when everything was dripping wet. It mattered not how long it had been raining, or how thoroughly everything was soaked, they were always able to have a fire—they called it *candela*—in full blast on a few minutes' notice.

Our second day in the forest primeval was, to me at least, one of peculiar interest and fascination. The aguaceron—heavy rainfall—that had prevailed during the

whole of the preceding night, had contributed greatly to the volume of the *creciente*—flood—already existing, and of which we had heard such ominous reports while yet in the sierra. The rivers were so swollen that at times they seemed absolutely impassable; but, thanks to our lusty cargueros, who seemed familiar with every boulder in their rocky beds, we managed to cross them, although not without considerable difficulty. At times everything, the earth, the rocks, the very hills and mountains, seemed converted into water. At every step were tiny streamlets, and here and there were roaring torrents that carried everything before them.

In one deep quebrada I witnessed a spectacle which I had never observed elsewhere. High above us on one side of the ravine the flood was seen springing over the crest of a precipice, clearing the loftiest tree-tops in its mighty leap, and forming in its mad plunge a series of waterfalls and cascades of bewildering variety and magnificence. The sight was so unusual, and so beautiful withal, that my Indian cargueros, who were usually quite indifferent to such things, suddenly halted, and addressing themselves to me, exclaimed in unfeigned astonishment, "*Mira, mira, el agua esta saltando por encima de los arboles!*"—"Look, look, the water is jumping over the trees." The spectacle was indeed unique, and we found ourselves unconsciously repeating the familiar words of Tennyson:

"A land of streams! Some, like a downward smoke,
Slow dropping veils of thinnest lawn, did go;
And some thro' wavering lights and shadows broke,
Rolling a slumbrous sheet of foam below."

Our experiences during the succeeding days were little more than repetitions of those of the first two days after leaving Moyobamba. After the first day, it is true, we were all obliged to journey afoot, but the prefect, with a kindness I can never forget, had secured for my benefit the services of two able-bodied cholos as *cargueros de silla*—



A CAMP IN THE FOREST BETWEEN MOYOBAMBA AND BALSAPUERTO.



FORDING A RIVER IN THE MONTAÑA.

chair-carriers—who were to carry me in a portable chair in case of necessity or fatigue.

Such cargueros are common in the mountain regions of South America, where horses and mules are not available, and they are a God-send, if not a positive necessity, to persons of delicate health or weak constitution, who have occasion to travel. Humboldt had recourse to their assistance in crossing the Cordilleras of New Granada, and speaks in the highest praise of their strength and endurance. Some of them are of Herculean strength and can easily carry day after day a man weighing two hundred and fifty pounds.

Unless too tired, I always preferred to walk. But when it came to crossing rivers and mountain torrents, I was always glad to mount the chair on the back of one of my cargueros. He was better able to breast the strong current than I was. Besides, as a sanitary precaution, I wished to avoid getting wet when there was no occasion for it.

Frequently the water-courses we had to cross were quite broad, and sometimes the water rose to the arm-pits of my valiant cargueros. Once in crossing a river just above a cataract, my carguero slipped and lost his balance. There was then a piercing scream from all our party, who thought that both the carguero and I were about to be carried away by the surging rapids. But, by a supreme effort the carguero quickly regained his equilibrium and the threatened disaster was averted. I felt then as I have felt since, that the salvation of both of us was due entirely to the strength and presence of mind of my stalwart porter. This, however, was the only time that I was exposed to danger, although we were obliged to ford rivers, often wide and deep, no less than sixty-three times between Moyobamba and Balsapuerto.

Before leaving Rioja, I was told that we might expect continual rains while on our way to Balsapuerto and that we should consider ourselves fortunate, if we were not

delayed by high and unfordable streams at their flood. There are no bridges nor ferries, and when the rivers rise, after heavy rainfalls, there is nothing for the traveler to do but patiently wait until the flood subsides.

By a special providence, it rained but little during the daytime after the first day, but there were heavy down-pours every night. It was then that I thanked my stars that I had with me a good water-proof tent, for with this I was as completely sheltered as if I had been under my own roof-tree, and, what was almost equally important, I was able always to have dry clothing for the following day's journey. My companions were quite satisfied with their *tambitos*, although, owing to their hasty and imperfect construction, they were not always rain-proof.

Although the rivers were greatly swollen by the heavy rainfalls during the night, their floods subsided so rapidly that we were never delayed even for an hour. Only once did I suffer any inconvenience from a rapid rise in the river, and that was when I permitted my *cargueros* to lag behind me so far that I had to pass the night without tent or baggage. Then I had forcibly brought to mind the wisdom of the saying, which travelers in these lands should never forget, "*Ni rio adelante, ni cargo atras*"—"Never have river before you nor baggage behind." The meaning of this is, camp on the side of the river next to your goal, for it may rise during the night and delay your journey. And keep your baggage with you, if you wish to have it when needed and desire to avoid vexatious delays.

On the occasion in question, we had arrived about five o'clock in the evening at the broadest and deepest river that we had yet encountered. My *cargueros de silla* wished to delay crossing it until the following morning, but I insisted in passing to the opposite side at once while the river was fordable. A heavy rain during the night might render it impassable for several days. They finally deferred to my wishes, and we went to an old *tambo*, where we purposed spending the night. But our baggage-

bearers, for the first time, were several hours behind us, and, by the time they reached the river, it had risen so high that it was quite impassable. The consequence was that I was without tent, change of clothing or provisions. Fortunately, the officer in charge had a dry blanket, and this he insisted on my using for the night. "I am an old soldier," he said, "and am accustomed to sleeping on the bare ground, but you who are unused to our climate, may get a fever, if you do not keep dry."

That night we were all supperless, except our baggage carriers, who bivouacked on the opposite side of the river. But my companions, who were used to such mishaps, did not complain. As for myself, I was so preoccupied with the wonderful forest scenes I had witnessed during the day, that I was quite unconscious of hunger.

That night there was a continuous downpour until towards morning, when the sky cleared and the stars appeared with unwonted splendor. When I awoke, I found that I had lain under an opening under the thatch roof, and was, in consequence thoroughly drenched. But I was so exhausted the night before, owing to our long march, that "My sleep fell soft on the hardest bed," and I was not disturbed by the falling rain. Luckily, the rain was not cold and I did not feel uncomfortable.

The view of the bright stars above me probably contributed not a little towards making me forget what, under ordinary circumstances, I should have considered a sorry plight. Far away from home, under the spangled vault of heaven, I recalled Dante's famous letter to a Florentine friend, in which, in words of proud and noble dignity, the homeless exile scornfully rejects the amnesty which had been proffered him on conditions which he deemed humiliating and unjust.

"Is this," he writes, "the glorious recall whereby Dante Alighieri is summoned back to his fatherland, after suffering well nigh fifteen years of exile? Is this the reward of innocence, manifest to all the world, of unbroken sweat

and toil in study? Far be it from the familiar of philosophy, this abject abasement of a soul of clay! Not this the way of return to my country, O my father! but if another may hereafter be found by you, or any other, which hurts not Dante's fair fame and honor, that will I accept with no lagging feet. If no such path leads back to Florence, then will I never enter Florence more. What then? May I not gaze upon the mirror of the sun and stars wherever I may be? Can I not ponder on the sweetest truths, whenever I may be beneath the heaven, but I must first make me inglorious, nay, infamous, before the people and state of Florence. Nor shall I lack for bread."¹

Never, probably, did these clarion notes of the great Florentine more strongly appeal to anyone than they did to me during that memorable night in the equatorial forest, and never did his unique character loom up so noble and so sublime. Owing, doubtless, to my peculiar surroundings at the time, his words rang in my ears like a trumpet call to higher things, and mere creature-comforts were quite forgotten in the contemplation of things of the mind.

The day before arriving at Balsapuerto we reached the most dangerous ford in the montaña—dread Puchumaco. It is a narrow path scarcely two feet wide, over solid, slippery rock at the very edge of a large and impetuous cataract. On one side of the path the water is entirely too deep to be forded; on the other is the dizzy, roaring waterfall. It would be quite impossible for one inclined to vertigo to cross at this point unaided, and even the most experienced cargueros, before entering the water here, always make the sign of the cross and invoke the aid of *Maria Santisima*.

"It is an awful place," said a friend in Lima, who had crossed it, "and I hesitated a long time before attempting the passage."

"When we shall have crossed Puchumaco," one of my escort declared, "we can tell exactly the time that will be re-

¹ *Epistola IX, Amico Fiorentino*, translated by P. H. Wicksteed.

quired to reach Balsapuerto. But it is impossible to do so before, because, if the river be high, we shall have to wait until it can be safely forded. We may be delayed a day or a week, according to the amount of rain that has fallen in the mountains."

As we drew near the roaring rapids, I eagerly awaited the opinion of the chief carguero respecting the possibility of effecting the passage. But I was not kept long in suspense. He stepped into the water, and, after estimating its depth and the strength of the current, he quietly said, "*Se puede pasar*"—"We can cross."

But walking over that narrow, slippery ledge, and breasting a strong current at the same time, was like walking a tight-rope, only far more perilous. A single misstep and the luckless wayfarer would be in the grip of the resistless cataract. But Providence was still with us, and in a few moments we were all fervently exclaiming *Gracias á Dios*. Puchumaco was behind us and we knew that we should be at Balsapuerto the following day.

"The way is now clear!" said the young officer, "and there is nothing further to be apprehended."

This was true, but it did not mean that the path before us was easy or free from obstacles. Far from it. For it was, in some respects, the roughest and most difficult part of our journey.

First came La Escalera—the stairway—a steep declivity where there is almost a sheer drop of a half mile. The precipitous declivity takes its name from a primitive ladder which is nothing more than a long, notched trunk of a tree, by which the traveler lowers himself from a massive ledge of perpendicular rock. After this, he follows a vertiginous, zigzag trail where at times he finds it difficult to retain his footing.

But even where the abyss yawns sheer, one becomes oblivious of danger in the contemplation of the magnificent panoramas that are spread before one's view. For it is only from such a coign of vantage that one can have a

true conception of some of the wonders of a tropical woodland. As observed from above, the impenetrable canopy of the forest is like the ocean—dark-heaving, boundless, sublime,

“A populous solitude of bees and birds
And fairy-formed and many colored things.

“Of stirring branches and the bud which brings
The swiftest thought of beauty, here extend,
Mingling and made by Love unto one mighty end.”

As seen with the naked eye, the view before us is but a vast plain of undulating verdure and as monotonous in its immensity as the ocean itself. But with a good glass, one can discover here and there, on this measureless background of green, glowing patches of creamy-white, coral-red and rich purple.

One spot is a tree in full bloom and weighed down by a dense mass of flowers which, beneath the rays of the tropical sun, gleam against the dark green foliage with almost dazzling brilliance. Another, much nearer the observer, is composed of huge bunches of orchids and other epiphytes,

“Painted with thousand colours, passing farre
All painters’ skill,”

while not far distant is a forest giant overspread with countless creepers whose flaming scarlet flowers hang in deep fringes from every twig and branch.

But I would not have the reader infer that such glorious exhibitions of color are frequent or always visible. Such is far from being the case. Unless one be favorably located and specially look for them, they may escape observation entirely. Indeed, I have traveled for several consecutive days in equatorial forests without seeing a single floral display at all approaching those just mentioned.

Wallace’s experience in the tropics is even more remark-

able. "Conspicuous masses of showy flowers," he writes, "are so rare that weeks and months may be passed without observing a single flowering plant worthy of special admiration. Occasionally some tree or shrub will be seen covered with magnificent yellow or crimson or purple flowers, but it is usually an oasis of color in a desert of verdure, and, therefore, hardly affects the general aspect of the vegetation."¹

This almost total absence of flowers is particularly remarkable when one is in the depth of the forest and under its leafy canopy. To the traveler from temperate zones, who expects to find luxuriance of vegetation always accompanied by masses of bloom and blazes of color, this feature is always surprising. "But where," inquires Bates, "were the flowers? To our great disappointment we saw none, or only such as were insignificant in appearance."² The illustrious botanist, Dr. Spruce, who spent so many years in the Amazon basin, had the same experience, for "far the greater part of the plants gathered by him in equatorial America had inconspicuous green or white flowers."

Contrary to what is generally supposed, the display of floral beauty diminishes in proportion as vegetation becomes more luxuriant. I saw more flowers on the comparatively treeless slopes of the eastern Cordilleras in one hour than I found in the montaña in a week, and I have seen more blossoms in one of our daisy-clad meadows than I saw in the entire selva of the Amazon.

The truth is that "The equatorial forest is too gloomy for flowers, or generally even for much foliage, except of ferns and other shade-loving plants; and were it not that the forests are broken up by rivers and streams, by mountain ranges, by precipitous rocks and by deep ravines, there would be far fewer flowers visible than there are. Some of the great forest trees have showy blossoms, and when these are seen from an elevated point, looking over an ex-

¹ Op. cit., p. 264.

² Op. cit.; pp. 46-47.

panse of tree-tops, the effect is very grand; but nothing is more erroneous than the statement sometimes made that tropical forest trees *generally* have flowers, for it is doubtful whether the proportion is at all greater in tropical than in temperate zones. On such natural exposures as steep mountain sides, the banks of rivers or ledges of precipices, and on the margins of such artificial openings as roads and forest clearings, whatever floral beauty is to be found in the more luxuriant parts of the tropics is exhibited. But even in such favorable situations, it is not the abundance and beauty of the flowers, but the luxuriance and freshness of the foliage and the grace and infinite variety of the forms of vegetation that will most attract the attention, and extort the admiration of the traveler. Occasionally, indeed, you will come upon shrubs gay with blossoms, or trees festooned with flowery creepers; but, on the other hand, you may travel for a hundred miles and see nothing but the varied greens of the forest foliage and the deep gloom of its tangled recesses.”¹

What has been asserted of the variety of flowers in tropical forests may likewise be affirmed of the scarcity of the larger forms of animal life. As there are many who imagine that every acre along the equator is a veritable botanical garden of rare and dazzling blooms, so also are there many who fancy that every square mile is a menagerie, where one may find troops of howling monkeys and scores of savage beasts of every kind. Nothing could be farther from the truth. There is, indeed, a great variety of birds, reptiles and mammals, but they are so widely scattered and so exceedingly shy and so well concealed that they are rarely met with, except by a professional hunter, who is thoroughly familiar with their haunts and habits. Many are nocturnal animals and never seen in the daytime, while the others so effectually hide themselves that one may spend months in the depths of the forest, and never see or hear any of the larger mammals. Nowhere

¹ Wallace, *op. cit.*, p. 265.

will one find anything like the herds of buffalo that formerly roamed our western plains, or the divers troops of ruminants and pachyderms that still throng the jungles of Central Africa.

Truth to tell, if the baneful forms of animal life were as numerous as sometimes represented; if savage beasts of prey, venomous reptiles and gigantic serpents abounded to the extent so often pictured by those dwelling in temperate zones, the tropics would be quite uninhabitable so far as man is concerned. But strangely enough, it is frequently those who are thoroughly familiar with every phase of life in the forests of the equator who unconsciously contribute to the perpetuation of the erroneous views that are entertained regarding the dangers which are supposed to be everywhere imminent. "For when they tell their experiences to those at home, they," as Im Thurn justly observes, "tell only of moments made eventful to them by exciting or evil experiences, and leave unnoticed the long periods intermediate between such moments, in which nothing of consequence occurred."¹ They give in a single traveler's tale "the concentrated miseries" of years, and their hearers, without suspecting it, imagine that they are listening to the recital of a frequent and ordinary occurrence.

But such erroneous notions about the abundance and danger of noxious animals are not, strange to say, confined to people who dwell in northern latitudes. I have, to my astonishment, found them prevalent in the immediate vicinity of the equator, and among people who should know better.

When I was in Cajamarca a good old lady, who was otherwise well informed, tried to dissuade me from making the journey, as planned, through the montaña, because of the countless dangers of all kinds which, in her estimation, I was sure to encounter. When I asked her what they were, she replied, "*Tigres, viboras, culebras, garrapatas,*

¹ *Among the Indians of Guiana*, p. 107, London, 1883.

zancudos, mosquitos, avispas y otras sabandijas nocivas innumerables”—“Tigers, vipers, snakes, ticks, mosquitoes, gnats, wasps and other noxious insects without number.”

What were the facts in the case? During my entire journey between Cajamarca and the mouth of the Amazon, I did not see, or even hear, a single tiger,¹ or serpent of any kind. I was never but once molested by insects, and that was only for a few moments, when I inadvertently sat on an ant hill. Only once during my trip across the continent did I use my mosquito-bar, and even then mosquitoes were so few that my companions dispensed with such protection.

More remarkable still, during all the long weeks I was in the heart of the tropical jungle, I never saw a single tapir, peccary, puma, sloth, manati, armadillo, monkey or any of the animals which are popularly supposed to abound in such countless numbers in the Amazon basin. And yet I was always straining my eyes to catch at least a glimpse of some of these interesting denizens of the forest. But it was in vain. Fact in my case was stranger than fiction. My experience across the Andes and down the Amazon was but a repetition of that recorded in my work—*Up the Orinoco and down the Magdalena*—when the entire absence of all the larger forms of animal life was equally remarkable.²

I spent nearly a year in the equatorial regions of South America, and was most of the time in the wilds of the

¹ The name commonly applied in South America to the jaguar—*Felis onca*.

² P. 364, et seq. Compare James Rodway, who, in his delightful work, *In the Guiana Forest*, declares that “To the stranger, the forest appears almost deserted. Hardly the sign of an animal is to be seen by any but a skilled huntsman, and by him only after a most careful search. There are no open places, but the whole is one vast game cover, in the recesses of which millions of animals may be hidden without any indication of their presence.” Again he observes, “However rare and difficult to find may be those which live on the ground, still they are to be seen by the naturalist and skilled huntsman; but when it comes to the others—the great majority that abide in the canopy above and rarely descend to earth—observation is almost impossible,” pp. 44-49, New York, 1894.

forest and mountain and llanos, and, notwithstanding the fact that I was always on the lookout for new specimens of tropical fauna, the very ones I was most eager to see completely eluded my observation. My experience may be unique, but it is certainly valuable in at least one respect—in proving conclusively that the larger forms of animal life are far less prominent than is usually depicted, and that the dangers and discomforts of travel in the interior of South America arising from savage beasts and venomous reptiles and pernicious insects are far less than what they are usually supposed to be in extra-tropical lands.

It was unquestionably vastly different from that of a certain romancing Frenchman, yelegt explorer, whose narrative of travel would lead the reader to believe that savage beasts and still more savage Indians are everywhere lying in wait for one who presumes to enter their zealously guarded domains, and that the choicest game birds and mammals are always posing for the hunter and within easy reach of his trusty rifle.

The pity is, that in the author's own country his book is regarded as a veracious record of events and a faithful picture of the regions which he traversed. In South America, however, where he is known, his work is classed with the fictions of Baron Münchhausen and Sir John Mandeville.

In the course of conversation with a number of gentlemen who had met this author during his visit to the tropics, one of them told me that the adventures recorded were but "The inventions of exuberant fancy." "Say rather," interposed another, "that they are the fabrications of exuberant mendacity."

"Why have you put such sensational stories in your book?" this Gallic author was asked by one of his South American friends. "*Mais, que voulez vous?*" he replied, with a significant shrug of the shoulders. "My publishers and readers demand such stories and I have to satisfy them. *Voilà tout.*"

What I have said about the rarity of the larger forms of animal life visible in tropical America, can likewise be said of the ear-splitting noises of which the forests, during certain hours of the day, are said to be the theater.

"At early dawn," says Orton, "the animal creation awakes with a scream."¹ I am familiar with most of the country described by the author of this statement, and I must say that my impression was quite the reverse. Aside from the occasional screams of macaws and parrots, there was little noise of any kind—certainly not more than is heard in our northern forests during the summer season.

Speaking of the silence and gloom of the equatorial forests, Bates, who spent so many years amid their dark recesses, declared, "They are realities and the impression deepens on a longer acquaintance."² Sometimes, it is true, there may be a sudden scream, when some defenseless fruit-eating animal "is pounced upon by a tiger-cat or a stealthy boa-constrictor," and in certain districts howling monkeys may not infrequently make "a most fearful and harrowing noise"; but the fearful uproar that is supposed by many to pervade the tropical forest at stated hours of the day is the exception and not the rule. For one may travel for months in the most unfrequented regions without once hearing a single sound louder than that made by a screaming macaw or a chattering parrot.

What most impresses the traveler, when he enters for the first time the primeval forests of the equatorial regions, is the immensity, the gloom, the silence and solitude of his environment. There is the feeling of awe, the sense of solemnity, the strange mysterious horror that the people of old felt in the dark forests of Germany and Gaul. *Arboribus suis horror inest.*

In these mighty woods one seems to be in some vast cathedral of Nature wherein the tall and multiform columns eclipse in variety and beauty of form anything to be found

¹ *The Andes and the Amazon*, p. 204, New York, 1870.

² *Op. cit.*, p. 48.

in the noblest of Greek or Gothic temples. Here one catches "The exact tone and spirit of those solemn silences, those suggestive glooms that brood eternally over the mystic soil of the tropical forest," and can, at leisure, contemplate what Grant Allen has so well characterized as the natural rivals of Karnak and Denderah "where huge columns rise buttressed to the sky from bare forest-glades, supporting one vast dome of living green, through which scarcely a ray of subdued light flickers timidly down to the leafless and flowerless bed of leaf-mold beneath them."

Another feature of the forest primeval that is sure to impress the traveler is the marvelous variety of forms and species which everywhere meet the eye. With the exception of a few palms, one rarely sees trees of social or gregarious habits like our northern oaks, pines, birches and beechwoods. There are trees of every form and color and dimension, but it is an exceptional occurrence when two of a kind are found side by side. Often one may observe two trees near together that look exactly like each other, but, on investigation, they prove to be of different species. Instead of the dozen species that make up the woods of northern climes, those of the equatorial zone are counted by hundreds.

It is not surprising, therefore, that the idea of evolution and of the survival of the fittest should, in great measure, have had its origin in the study of the manifold and diversified floral and faunal forms of the tropics. And in the face of the endless variety and boundless energy of the plant life along the equator, one can understand how it was possible for two investigators on opposite sides of the globe—Darwin in South America and Wallace in the Malayan Archipelago—to arrive at the same conclusion respecting the origin of species, and how such other tropical travelers as Belt, Huxley, Bates and Fritz Müller were prepared to give the new theory their intelligent and enthusiastic support.

But, interesting as are the vigor and profusion and variety of the vegetation of the tropics, that which more than

anything else is sure to claim the attention of the student is the struggle for life that is everywhere manifest. For here not only is "life at its fullest, its fiercest and its fieriest," but here also, both among plants and animals, "the struggle for existence is carried on with a wild energy which none can overlook."

What tragedies are covered by the solitary gloom of the tropical forest can be adequately realized only by the naturalist who has spent years under its weird canopy and has familiarized himself with the peculiar habits of the fauna and flora of this mysterious region.

The carnivora prey on the herbivora. The puma and the ocelot live on harmless nut and fruit-eaters, while woodpeckers, barbets and other birds feed on insects. Every river, creek and swamp teems with the lower animalculæ which supply food for the larvæ of flies and mosquitoes, which nourish countless shoals of small fish, while these in turn become the prey of the larger members of the finny tribe as well as of the ibis and the alligator.

But nowhere does the waste of life seem to be so great as among the hundreds of species of ubiquitous termites. Their enemies are innumerable, but, among the most active of them, are ants, spiders, toads, lizards, bats, goat-suckers, and above all, the voracious ant-bear. Certain animals like the deer, the water-haas and the peccary seem to be even more unfortunate. In the forest they are the victims of the jaguar and the boa-constrictor, while, if they approach the water to quench their thirst, they forthwith become the prey of the alligator and the anaconda. Day and night the struggle continues without intermission, and with a fury and a loss of life that is appalling. The very young and the old, the diseased and the helpless soon disappear, and only the strongest and the fittest survive.

But great as is the struggle in the animal world, that in the vegetable kingdom is still greater. Where the soil is so rich, the climate so warm, the atmosphere so humid, where moisture is so abundant, we should naturally expect

a riot of plant-growth, but it is impossible to realize the nature of the struggle that is constantly waging in the depths of the forest, until one has been a witness of some of its strange peculiarities. It is entirely different from anything ever seen in northern latitudes, and some of its features are so astonishing as to be incredible, were their existence not proved beyond peradventure.

Where vegetation exists in such extraordinary profusion, where soil and heat and moisture are so propitious, the struggle for existence is chiefly manifested in the ceaseless straining of each plant, shrub and tree after light. If they could but speak, their own cry would be the words of the dying Goethe, *Mehr Licht, mehr Licht*—More light, more light. In their effort to obtain the requisite amount of this vivifying element, they crowd and push and elbow one another until all but the strongest succumb to the inevitable.

But even after a tree has been victorious in its race for light, it is not secure. Its expanding branches may rejoice in the rays of the tropical sun, and it may possess the strength of a forest giant; but enemies, apparently insignificant, may compass its destruction. It may fall into the clutches of the wild fig—*Ficus dendroica*¹—and when once within the constricting bands of this python-like strangler, its fate is sealed. For when it is enclosed in the living fetters of this irresistible strangler, the largest and most vigorous tree is soon deprived of light and vitality. Its leaves drop, its branches wither and die, while myriads of termites take possession of the trunk, and soon a mass of brown humus is all that is left of what was once the pride of the forest.

Or the tree may wax strong and dominate its fellows and escape the strangling fig to fall in the end a victim of the

¹ Called by the Spaniards, *Matapalo*—tree killer—but more appropriately named by the Germans, *Würgebaum*—tree strangler. Another remarkable instance of a plant that causes the death of its host by methods similar to those of the matapalo, is the *Clusia insignis*, one of the most beautiful shrubs in the tropics, which, on account of its thick, leathery leaves, that shine as if polished, and its green, glossy branches, is always sure to arrest attention.

murderous loranth. Like Sinbad, it may take this apparent weakling on its shoulders and discover, when it is too late, that it has developed into another *Old Man of the Sea*.

The loranth, a parasite of the mistletoe family, adheres to its living support by sucking disks, and, extending its octopus-like arms from branch to branch and from twig to twig, is soon draining the sap of the tree in hundreds of places. Even the sturdiest monarch of the forest is soon weakened by such depletion, and forced to lag behind its swifter and hardier competitors. It is then only a question of time until it succumbs and yields its place to some more fortunate rival, possibly one of its own offspring, which it has hitherto sheltered, but has not permitted to outstrip it in the race for light and life.

In a few years the loranth undoes the work of centuries, but, it too, like its victim, has mortal enemies and sooner or later runs its course. Thus the struggle for life ever continues. The individual may die but the species survives, and by modification and selection becomes slowly but surely better adapted to its environment, and better equipped to ward off the enemies that would compass its destruction.

But much as I was interested in the fierce struggle for existence, which is such a conspicuous feature of tropical life, I did not disregard the many splendid vistas which greeted the view, nor overlook the countless objects of beauty that adorned my path.

To the lover of "a quiet journey of the heart in pursuit of Nature," nothing can be more restful and stimulating than a stroll through the weirdly solemn woodlands where eternal twilight reigns supreme. Here, surrounded by laughing streams, whispering leaves and rippling songs within the shadows, one may enjoy a serene although intense pleasure which cannot be found elsewhere. For nowhere is there so much to appeal to every sense and to engage every faculty of the mind. Nowhere else is the interdependence of animal and vegetable life so well exhibited, and nowhere

are witnessed those wonderful protective colors and contrivances with which every living thing is provided.

In no other part of the globe are the many intricate processes for the fertilization of flowers so well exemplified. Here wind-fertilized trees, if any exist, are the exception and not the rule. Birds and insects perform the functions of air-currents in our northern climes. Flowers of brilliant colors attract bees and butterflies by day, while blossoms of rarest perfumes allure clouds of insects at night.

Plants are thus like animals, some working during the day, others only after nightfall. The latter, during the flowering season, are specially active, for then their leaves must labor while the sun shines and their blossoms must begin work as soon as it shall have set. During this time, the entire forest is alive with myriads of insects, and the atmosphere is saturated with perfumes which are diffused by the shade-loving plants on the ground, and wafted from the tree-tops high overhead. The work then performed by tree and plant, leaf and flower, is something enormous. But it is necessary for the conservation of the species.

It is said that the botanist Hænke on first beholding a *Victoria regia* fell on his knees and sang the *Te Deum*. The devout lover of nature always feels like imitating his example, and chanting a hymn of praise, when contemplating the wonderful provisions Nature has here made for perpetuating the divers forms of life that give such grace and loveliness to this portion of God's beautiful world.

In the darker portions of the woods there is but little undergrowth, for it is so obscure that even shade-loving plants are unable to thrive. In such places the ground is almost bare, for the leaves and fallen trees rapidly disappear under the combined action of the elements and those billions of forest scavengers—the ever-active and ubiquitous termites. Here one will see none of the true mosses that carpet the ground in our northern forests, although certain club-mosses—*Selaginella* and *Lycopodium*—may sometimes be visible. And here, where the forest giants

are always clothed with the vesture of summer, and where not a single ray of light can penetrate to the soil beneath, there are none of those pretty flowers—anemones, blue-bells and spring-beauties—that adorn the woods of higher latitudes, where, however deep the shade, there is never an approach to the profound gloom that forever prevails in the montaña of Peru and in the selva of Brazil.

Here where Nature is so lavish with her gifts, where she actually runs riot in the rich exuberance of her never-failing energy, it were idle to dilate on the strange masses of tangled vegetation that encircle every glade, on the lianas and cord-like aerial roots that are laden with fantastic orchids and parasites, on the great domes of fan-shaped leaves that crown the stately moriche palm, on the green tracery and lace-like leafage which bedeck the graceful fern-tree, the princess of tropical woodland.

It would be vain to descant on the surpassing beauty of babbling brooks, bordered by festoons of delicate creepers, or pellucid streams meandering under somber arcades formed by towering trees whose branches weave high above their superb canopy of richest foliage and flower. And futile, too, would it be to essay to describe the graceful cascades, that break the course of quiet rivulet and impetuous torrent, the exquisite waterfalls which descend from dizzy heights like bridal veils dropped from the sky, the countless springs that gush from the mountain side with waters purer and clearer than those of Castalia or Hippocrene, the beauteous grottoes, rivaling Calypso's,

“All overgrown with trailing plants
Which curtain out the day with leaves and flowers.”

The famed beauties of Tempe pale into insignificance before the glories of a valley in the tropics, with its marvellous wealth of plant-life, while as for the forest primeval in all its variety and richness and gorgeousness, no pen, no brush, however cunning the hand that may guide it, can ever adequately depict it, nor can imagination, however

fertile, conceive it in its splendid reality. This knowledge, this exceedingly great reward, Nature reserves for those only who visit her in chosen penetralia, and who know how to hold communion with her while she unfolds the mysteries which render her to all but her votaries so enigmatical—so inscrutable.

CHAPTER XXI

DRIFTING IN A DUGOUT

The first positive evidence we had of being near Balsapuerto was the lowing of an invisible cow just in front of us. And, although we were still in the dark and tangled forest through which we had been trudging for nearly a week, we were sure that we were on the verge of a grass-colored glade in the immediate vicinity of our eagerly-sought goal on the Cachiyaco. And so it was. A few steps more took us out of the woods into the midst of a beautiful green meadow on the outskirts of the town.

The governor of Balsapuerto extended to me the same cordial welcome that had been accorded me everywhere else in his hospitable country, and had a bountiful supply of refreshments in readiness for us.

"I had," he said, "made all arrangements to go to Yurimaguas yesterday, but, being advised of your coming, I have waited for you so as to have the pleasure of your company *en route*. You are to be my guest until we reach Yurimaguas, where, I am sure, the sub-prefect will claim you during such time as you may tarry there."

We remained but a few hours in Balsapuerto, for there was but little there to engage our attention. It is a village of not more than two or three hundred inhabitants, mostly Indians and mestizos, which derives its chief importance from being a convenient half-way place between Moyobamba and Yurimaguas. Much of the merchandise to and from Moyobamba passes through this little town. It, therefore, like many other similar villages in South America, has visions of future greatness as a commercial center—visions, however, which are not likely to be realized.

Our baggage was transferred without delay to the governor's canoe—a large but graceful *piragua* made from a single log of cedar. It was something more than thirty feet long and four feet wide and capable of carrying nearly two tons. Over the middle of it was a waterproof *pamacari*, woven from palm leaves to shield us from the sun and rain. It was manned by a *puntero* who stood at the bow on the lookout for shoals and sunken trees, a *popero*, or steersman, who used a paddle for a helm, and six *bogas* or rowers.

Besides the crew, the boat carried six passengers, their baggage, several days' provisions for the entire party, some merchandise and last, but not least, the government mail.

Among our provisions, not including what I had brought from Moyobamba, were plantains, beans, preserves, eggs, pineapples and a goodly number of live chickens. There was, besides, a liberal supply of chicha and aguardiente contained in large carboys like those used for the transportation of corrosive acids. This was chiefly for the use of the crew.

It was nearly three o'clock in the afternoon when the governor gave the order for departure in the single word, *Vamonos*. A few strokes of the oars and our boat, followed by a small one containing some of my escort, was in the middle of the Rio Cachiyaco, a tributary of the Parana-pura, which enters the Huallaga just below Yurimaguas.

As the palm-thatched roofs of Balsapuerto were disappearing from sight, I beheld the Cumbre de la Escalera. It was my last view of the Andes; for the tall trees, that thenceforward bordered the Cachiyaco, made it impossible to see them again. A feeling of sadness came over me when leaving that majestic mountain chain on the heights and flanks of which I had spent so many delightful months, but the sadness was but momentary. For no sooner was La Escalera veiled from sight by the sylvan rampart, that towered up on each side of the river, than there appeared in the east a bright and beautiful rainbow like the one that

gladdened my eyes as I was bidding adieu to the Pacific before starting for the Amazon.

"*Buen agüero*"—"a good omen," said the governor, addressing me. "*You are going to have a safe and pleasant voyage to Pará.*"

These were almost the same words that had been spoken by the chief of my escort, when, some weeks before, we were contemplating the beauteous rainbow that was beckoning me across the Cordilleras. It was a good omen then, for I had had an ideal trip across the great Andean range, and I loved to think that the second omen would be equally auspicious for a safe and pleasurable voyage to the far distant Atlantic.

We spent the first night after leaving Balsapuerto on a sand bank under a palm-leaf *tambito*, which some of our Indians constructed while the others were preparing our evening meal, which included, among other things, a chicken fricassee that would have done credit to a Parisian chef.

I had been told that I should find a *temperatura infernal* on the Cachiyaco, but so far was this from being the case, during our first night on this river, that I passed it under a double blanket.¹ I was also assured that I should be devoured by mosquitoes and zancudos, but so free was our camp from these pests that no one thought of using a mosquito net.

The following morning we arose at four o'clock, and, after partaking of some delicious coffee, we were again in our canoe gliding *rio abajo* and listening to the rhythmic cadence of dipping oars whose stroke was as perfectly timed as if each boga was a part of some accurately geared

¹ During a few days about the middle of June, owing to the prevalence of the southeast wind and the unusually rapid evaporation of moisture, the temperature in the Amazon basin falls to 60° F. This produces what the natives call *Frio de San Juan*—cold of St. John—and is by them regarded as quite as intense as that of one of our northern blizzards is by us.

This remarkable reduction of temperature was noted by the earliest explorers of the Amazon. Fray Laureano de la Cruz, O.S.F., makes a special reference to it in his *Nuevo Descubrimiento del Marañón*.

machine. Each man exhibited the skill of a trained Venetian gondolier, and seemed to be a part of the craft he managed so well. They had paddles about four feet long with blades eight or nine inches wide, instead of the oars with which we in the north are familiar. These they dipped into the water almost perpendicularly and dispensed entirely with anything like an oar-lock or a thole-pin.

More surprising than the regularity, was the rapidity of their strokes. They averaged by actual count no less than a hundred a minute, and this they kept up for hours at a time, without the slightest indication of fatigue. What a splendid showing these red watermen would make in one of our intercollegiate regattas! Our university oars would certainly be put to it to hold their own.

But it is not surprising that the Indian is so skillful in handling his canoe, for he is as much at home on the water as on the land. Indeed, some of his race learn to swim before they are able to walk, and remain during life almost amphibian in their habits. Their canoe is as much their home as their hut, and they are never happier than when threading the mazes of forest streams or shooting rapids, or tracing the sinuosities of the majestic rivers, which are such conspicuous features of the great Amazon basin. What the llama is to the native of the Bolivian plateau, what the horse is to the Arab, what the camel is to the wanderer in the Sahara, the canoe is to the Indian of the South American lowlands.

As I watched our graceful piragua, like the *phasellus celerrimus* described by Catullus, swiftly gliding down the Paranapura and fraught with all the mystery and magic of forest life, and beheld in its simple structure

“All the tightness of the birch-tree,
All the toughness of the cedar,
All the larch’s supple sinews,”

I could realize—what before had seemed difficult to comprehend—how the early missionaries and explorers were able

to make such long journeys in so frail a craft, and that, too, with comparative speed and safety. With a boat like ours, and an Indian like one of our crew to guide it, danger was reduced to a minimum. So much, indeed, is an Indian a part of his canoe, and so absolute is his control over it, that a Greek poet, could he have seen the two together, would have described the prodigy as an aquatic centaur.

There is quite a number of habitations on the banks of the Paranapura, most of which are the homes of Jeberos Indians, who, before their conversion by the missionaries, nearly two centuries ago, were celebrated for their valor and greatly feared by the neighboring tribes. They are now, thanks to the labors of the ministers of peace, the most docile, the most industrious and the most useful Indians in eastern Peru. We called at several of these Indian homes, most of whose inmates speak a dialect of Quichua, and were invariably received with the greatest kindness and courtesy. Here, as along the Orinoco and the Meta, we found the male portion of these unspoiled children of the forest to be Nature's gentlemen.

At the house of a chief, where we stopped to replenish our commissariat, I was impressed, as rarely before, by the gentle, affectionate and grateful nature of the Indian. While the governor was talking to the father of the family, my attention was attracted to two little girls about two and four years of age. They were lovely children and, had their skin not been so dark, they might well have served as models for Correggio's putti, while their bright-eyed brother near by might have been the original of one of Murillo's *Beggar Boys*.

The younger child was particularly beautiful, and, as she showed no timidity in my presence, I began to caress her, and give her some little trinkets I happened to have with me. The little thing was so delighted that it wished to come to my arms. Just then the mother entered the room and I said to her, "*Achallay huahua*"—"What a lovely child!" No further introduction was necessary. I became

at once a friend of the family and nothing in the house was too good for me. Noticing the trinkets I had given her darling child, the mother wished to give me something in return. She accordingly brought from an adjoining room some fresh eggs and choice fruits and gave them to the little one to hand to me. Beaming with delight it stretched its tiny hands towards me and seemed the picture of happiness when I accepted with pleasure its proffered gift.

The father then came from the garden and insisted on my taking something from him also. This was a well-mounted bird of gorgeous plumage, which constituted the chief ornament of his ceremonial head-gear. Removing this from its place he said, "Please accept this as a souvenir of a friend on the Paranapura. You like my child; I like you."

I then felt as I had a thousand times before in my dealings with the Indians—and I have come in contact with them from the Arctic circle to the tropic of Capricorn—that if you treat them with kindness, if you treat them as human beings, they will do anything for you. But kindness to their children, whom they idolize, appeals to them even more strongly than kindness to themselves. Kindness to the little ones, probably even more so than among civilized peoples, is the open sesame to the parent's heart. The Indians, like the people of Italy, "are dying for need of love; only in returning love for love they become themselves and enter into possession of their souls by the gift of them."¹

The home of the Indian chief was a small but neat palm-thatched cottage, surrounded by a beautiful garden. But, like the cherished home of Lope de Vega—*parva, propria, magna*²—it admirably answered all the wants of himself

¹ Ruskin's *Roadside Songs of Tuscany*.

² Lope, whom Cervantes calls a *monstruo de naturaleza*—a portent of nature—playfully described his little garden, in which he took great pleasure, as containing a fountain, a nightingale, two trees, ten flowers, two vines, an orange-tree and a musk rose.

and family. He might have described it as did Ariosto the little house wherein he polished the verses which have rendered him immortal:

“Parva sed apta mihi, sed nulli obnoxia, sed non
Sordida, parta meo sed tamen ære domus.”¹

Here, in a blessed solitude that would have delighted the heart of a St. Bruno, or a St. Basil; far away from the futile strife of humanity, far away from its “chagrined contention for place or power or wealth or the eyes of the multitude; and all the endless occupation without purpose and idleness without rest, of our vulgar world,” these good people enjoyed the simple life of which we hear so much but see too little, and each one of the happy group could say, as did Amphion long ago in the market of Athens, “How many things there are in the world that I do not want!”

Here, truly, surrounded by such radiant, charming children, one could easily dispense with the flask of wine, the book of verse and the favorite singer of the Persian poet, and still exclaim, in the serene joy of undisturbed tranquillity and perfect liberty,

“Oh, Wilderness were Paradise enow!”²

The Indian family I have just described is not unique nor exceptional. It is typical of scores of others I saw in various parts of South America, who so strongly appealed to me on account of their many noble qualities of mind and

¹ “A small house, but suitable for me and hurtful to no one; it is clean and has been purchased by my own money.”

² Is the love of the simple life, of log cabins and bungalows, that has had such attractions for men from the time of Baucis and Philemon to the days of Thoreau and John Burroughs, an indication of a reversionary tendency to a life of wild nature? Charlevoix, speaking of the *coureurs de bois* of our great northwest, declared that “The savages did not become French, but the French became savages.” Or does it proceed from a desire to escape from the stress and strain of an overwrought civilization with all its pretense and artificiality? The question is an interesting one.

heart. They are not, it is true, like most of the red men with which our people in the United States are familiar—poor debased creatures hanging about Indian agencies, debauched by the white man's whiskey, and eking out a precarious existence on the dole they receive from the government. Neither are they the cruel and treacherous cutthroats that have been pictured by some of our western land-grabbers who endorse Custer's epigram that "The only good Indian is a dead Indian," or who flippantly repeat with Artemus Ward, "Ingins is Pizin, wharever found," and who, if they could, would have the entire race exterminated.

Far from this. The denizens of the South American forest, "unspoilt as yet by alcoholic civilization and undecimated by the free use of Martini-Henrys," are, as Columbus found them on his first arrival in the New World, "a loving, uncovetous people, so docile in all things that . . . there is not in all the world a better people." They are as Las Casas knew them when, in his diocese of Chiapa, he converted *The Province of War* into *The Province of True Peace*, and effected by the cross what the Spanish soldiery had not been able to accomplish by the sword or the harquebus. They are like those described by the saintly Bishop Palafox, of Pueblo, in his *Virtudes del Indio*, and as they were found by Santo Toribio, the Apostle of Peru, who spent his life in their service. They are like the countless Indians who, in earlier days, gathered around the missionary in the llanos of Venezuela and Colombia, on the banks of the Amazon and in the wilds of Paraguay, forming industrious and happy colonies, where religion flourished with the arts of peace, and where were resplendent all the domestic virtues of Acadia as mirrored in Longfellow's *Evangeline*.

The Indians of the equatorial forests are poor, if you will, but they are not discontented. Most of them are as poor "in accumulated wealth as the poorest peasantry in Europe, but they are rich, knowing no want unsatisfied, as a nation of millionaires," and free, like the birds of the

air, to go and come as they list.¹ They are to-day as they were in the time of Peter Martyr, who, quaintly Englished by Eden, writes of them as follows—"Myne and Thyne, the seedes of all myscheefe haue no place with them. They are contente with soo lytle, that in soo large a countrey, they haue rather superfluitie then scarsenes. Soo that, (as we haue sayde before) they seeme to lyue in the goulden worlde, without toyle, lyuinge in open gardens, not intrenched with dykes, dyuyded with hedges, or defended with waules. They deale trewely one with another, without lawes, without bookes, and without Iudges. They take hym for an euyl and myscheuous man, which taketh pleasure in doinge hurte to other."²

¹ The following description, by the Earl of Dunraven, of the red man of North America is even more applicable to the Indian of the forests bordering the equator:

"He is free, and he knows it; we are slaves, bound by chains of our own forging—and he sees that it is so. Could he but fathom the depths of a great city and gauge the pettiness, the paltry selfishness of the inhabitants, and see the deceit, the humbug, the lying, the outward swagger and the inward cringing, the toadyism and the simulated independence; could he but view the lives, that might have been honorably passed, spent instead in struggling for and clutching after gold, and see the steps by which many a respected man has climbed to fortune, wet with the tears of ruined men and women; could he appreciate the meanness of those who consider no sacrifice of self-respect too great provided it helps them to the end and object of their lives, and pushes them a little higher, as they are pleased to call it, in society; could he but glance at the millions of existences spent in almost chronic wretchedness, lives that it makes one shudder to think of, years spent in close alleys and back slums, up dismal, rotting courts—without sun ray, air, grass, flower or beautiful nature—with surroundings sordid, dismal, debasing; if he could note how we have blackened and disfigured the face of Nature, and how we have polluted our streams and fountains, so that we drink sewage instead of water; could he but see that our rivers are turned to drains and flow reeking with filth, and how our manufacturers have so impregnated the air we breathe, that grass will not grow exposed to the unhealthy atmosphere—could he but take all this in, and be told that such is the outcome of our civilization, he would strike his open palm upon his naked chest and thank God that he was a savage, uneducated and untutored, but with air to breathe and water to drink, ignorant but independent, a wild but a free man." *The Great Divide; Travels in the Upper Yellowstone in the Summer of 1874*, pp. 108–111, London, 1876.

² *The First Three English Books on America*, p. 78.

Many of them still retain the custom of painting themselves with annatto and other vegetable dyes in order to enhance their beauty as they did when the Father of American History penned the following lines: "And that they may seeme the more cumlye and bewtifull (as they take it) they paynte their bodyes redde and blacke with the juce of certeyne apples whiche they plante in their gardens for the same purpose. Summe of them paynte their hole bodies; summe but parts; and other summe drawe the portitures, of herbes, floures, and knottes, euery one as seemeth beste to his owne phantasye."¹

The grace of form and bearing, the splendid physique, the attractive demeanor which Catlin so much admired in the North American Indian are equally conspicuous among the aborigines of the Amazon. I have, he writes, lived with "thousands and tens of thousands of these knights of the forest, whose whole lives are lives of chivalry, and whose daily feats"² in their sports and games constitute "a school for the painter or sculptor equal to any of those which ever inspired the hand of the artist in the Olympian games or the Roman forum."

The late Dr. Harris, Commissioner of Education, aptly described the Indian race by two words, "Homeric children." Mr. Leupp, sometime United States Commissioner of Indian Affairs, who has evinced a clearer insight into the character of the red man than many of his associates in office, and who has displayed more competency in dealing with certain phases of the long-vexing Indian problem than most of his predecessors, thus comments on the happy phrase of Dr. Harris: "They"—the Homeric children—"have an oriental code of ethics which holds hospitality so

¹ Peter Martyr, *ut. sup.*, p. 151.

The Spaniards in their first contact with the aborigines were evidently differently impressed by this style of adornment for, as the writer just quoted observes, "A man wolde thinke them to bee deuylles incarnate newly broke owte of hell, they are soo lyke unto hel-houndes." *Ibid.*, p. 91.

² *Illustration of the Manners, Customs and Condition of the American Indians*, Vol. I, p. 15, London, 1845.

sacred that, if an Indian takes you into his home as a guest,¹ you are absolutely under his protection during your stay. But the same code, which rigidly recognizes the rights and privileges of friendship, and even one's duty towards the stranger, who is temporarily sharing one's camp, ignores every consideration in the treatment of an enemy, except the desire to inflict upon him any injury possible. The maxim, 'All's fair in war,' often current among whites, who carry honor to the extreme of generosity in dealing with a foe, to an Indian means what it says. His mind is of the simpler type which, in a hostile atmosphere, knows no sentimental restraints, but despises all forms except such as may be needed to mislead an intended victim. Remove the alluring gloss, which poesy has spread over the conduct of the worthies who figured in the siege of Troy, and do we find any larger element of virtuous motive there than in the standards respected by our aboriginal race? Yet Homer's people we do not denounce as innately vicious because the stage which human development had reached in their era failed to foreshadow some of the best features of our modern civilization."²

This is a fair characterization of our northern Indian, but it does not adequately describe his more gentle, docile and law-abiding brother of the tropics. I do not refer to the civilized Indians of the Andean plateau, but rather to their half-civilized brethren of the forest in that long stretch of country which extends from the Casanare in the north to the Grand Chaco in the south—a land that has witnessed the labors and the triumphs of those noble conquistadores of the cross, who, from St. Louis Bertrand on the Magdalena to St. Francis Solano on the Pilcomayo, made the savage a Christian, and brought him within the pale of civilization. But of this more anon.

¹ The statement *Recibe bien todo Indio silvestre al extranjero que viene de paz*—The Indian treats well all peacefully disposed strangers—is as true to-day as it was in the time of the early missionaries.

² *The Indian and His Problem*, pp. 6-7, New York, 1910.

DRIFTING IN A DUGOUT

The days I spent on the Paranapura are among my most cherished recollections of the tropics. At times we sped through water like racing porpoises; but usually we drifted along with the current—lazily, dreamily—brushing by long, whispering rushes, or under the shade of the dark green forest-wall; beguiled ever by Nature's manifold life in the glimmering, opalescent waters of the river, or on the shimmering branches of the ceiba, palm and bamboo, or in the luminous atmosphere aflush with quivering life—aflush with innumerable wings, palpitating, glittering and aglow with the most brilliant hues. In the first flush of dawn the vapor-fleeced sky was suffused with the softest gradations of color from gray and cream to pink and orange. And as the hour of twilight approached the celestial vault was "roofed with clouds of rich emblazonry," which exhibited all the modulations of tint, all the pure, subtle afterglow of the setting sun that so fascinated me on the Pacific.

There was the same exuberance of vegetation which had so delighted me in the forest primeval, from which we had just emerged; but the aspect was different and the vistas, which opened up at every turn of the river, were more entrancing.

The beauties of brooks and rivers in temperate climes, which poets and painters from time immemorial have depicted in such glowing colors, are tame when compared with the glories of the water-courses of the equator. Every bend of the river exhibits a new scene—some marvel of plant or tree or flower. Here is a giant ceiba festooned with creepers bearing the most gorgeous blossoms, there a clump of stately palms with their tremulous plumes, and a stone's throw from them a group of bamboos which Humboldt classed among "the most beautiful adornments of tropical vegetation." Further on is a towering cedar from whose topmost branches depend lianas and cord-like aerial roots which resemble the rigging of a Brobdignagian ship. Nearer the water's edge are clusters of arums, marantas

and heliconias, while, if the current be not too strong, the eye is now and then delighted by exquisite patches of water-lilies, or the pretty shields of other aquatic plants.

But charming as are the vistas presented by the river, the pictures offered by the tributary streams which drain the forest on either side are still more enchanting. The mouths of these streams seem at first sight like little bays that indent the bank; for they are so curtained about by masses of vegetation that a view of what is beyond is effectually concealed. A few strokes of the machete, however, enables our pilot to escape from the apparent *cul de sac*, and a vigorous stroke of an oar sends our canoe into a magnificent arcade of greenery fifty feet wide and hundreds of feet long. The sides of this vaulted passageway are veiled with a delicate drapery of vines and creepers, which trail from tree to tree, and hang with orchid-decked tapestries, which as much surpass the rarest creations of Flemish looms as nature surpasses art. Here the atmosphere is redolent of rarest perfumes producing, like the frangipani plant, the effect

“Of orris mixed with spice,
Sandal and violet with musk and rose,”

and surpassing in the delicacy of their fragrance the famed

“Sabeian odors from the spicy shores
Of Araby the Blest.”

Further onward in this matchless arcade the passage narrows, and the sunshine is so completely curtained out by the mass of foliage and scrambling plants that we seem to be in the half-light of the under-world, with all its pervading, mysterious, whispering silence. The effect produced is then weird and impressive in the extreme, while the little that is visible in the encircling gloom is well described by Dante in one of his canzoni,

DRIFTING IN A DUGOUT

“Come pintura in tenebrosa parte
Que non si può mostrare,
Ne dar diletto di color, ne d’arte.”¹

Our second and last night on the Paranapura is noted in my diary as the only place during my journey across the continent where I used a mosquito-bar. And, wonderful to relate, it was the only place where it was needed. This I have always considered most remarkable, in view of the experiences of other travelers in the equatorial regions, who have complained of the clouds of mosquitoes and zancudos which day and night made their life a torture. From what I had been told, I expected to suffer more or less from these insect plagues as soon as I reached the lowlands, but I was fortunate enough to escape them entirely. During my entire trip between the Pacific and the Atlantic, I did not lose five minutes’ repose from insects of any kind. So far as I am aware no other traveler has had a similar piece of good luck to record.

The day we reached Yurimaguas we were in our piragua shortly after two o’clock in the morning. The atmosphere was deliciously fresh, the thermometer registering 69° F., and the ever-changing views on the river in the pale, silvery light of the moon, were even more entrancing than anything we had seen the preceding day, except the natural arcades above described.

It was during these early morning hours that I first heard the melancholy notes of the little bird known as *El alma perdida*—the lost soul. It is related that a young Indian mother left her child in charge of her husband, while she went into the forest to collect balsam. Alarmed at her long absence, the man went in search of his wife, leaving his child behind. When they returned to the spot where the child had been left, it was gone, and to their repeated calls, as they wandered through the woods in search of it, they

¹“Lost like a picture on a gloomy wall,
Which cannot show its worth,
Nor give delight from color nor from art.”

could get no response, except the mournful notes of this little bird, which, to their over-wrought imaginations, sounded like *papa, mama*—by which name it is still known among the Quichuas of the montaña.

As we neared Yurimaguas, another halting place in our long wanderings, we passed quite a large number of canoes, big and little, nearly all of which were manned by Indians. Many of them were laden with fruits and vegetables for the market. Some of the boats were in charge of Indian women, who seemed quite as skillful with the paddle as the men. In most cases there were several children aboard, who, if able to lift a paddle, were sure to have one in their hands, which they plied as dexterously as does a young seal its flippers.

We arrived at Yurimaguas at noon the third day after our departure from Balsapuerto. It was not without a pang that I here took leave of the generous, kindly governor of Balsapuerto and the gentle Indian bogas, who had contributed so greatly to my pleasure and comfort by their obliging disposition and by their marvelous skill as oarsmen. I gave each of them a suitable souvenir of our journey together, and they were good enough to invite me to be their guest the next time I should desire a piragua and bogas on either the Cachiyaco or Paranapura.

From our piragua I went directly to the prefectura, where the sub-prefect greeted me with the same marked cordiality as that with which I had been received elsewhere in Peru, and nothing was left undone to render the day I spent there eminently enjoyable.

In the evening the sub-prefect gave a dinner in honor of *El viajero Norte-Americano*, to which he invited all the representative men of the town. It was a most delightful gathering and the good-fellowship manifested was quite exceptional. Speeches were made in which special emphasis was laid on the friendly relations between Peru and the United States, and toasts were drunk to the presidents of the two republics.

All had many questions to ask about President Roosevelt, and I was surprised at the knowledge which these men, in the heart of the wilderness, displayed regarding the career and policies of our strenuous chief executive. One of them was so enthusiastic about him that he insisted in drinking a second toast *Al ilustrísimo Presidente Roosevelt, amigo del Peru*. This was the occasion for more speeches, in which were portrayed the greatness and glories of Peru and Yurimaguas, after the opening of the Panama Canal and the completion of the Payta-Amazon Railroad. Then, as our perfervid orators saw it, a branch road would be extended from the trunk line to their enterprising town, and Yurimaguas would at once become the great commercial center of the upper Amazon basin.

A parting bumper was drunk to the health of the guest of the evening, with the expression of the hope that we might all meet at Panama in 1915 for the opening of the great canal which, it was predicted, would bring Peru and the United States as close together in commerce as they now are in friendship and mutual esteem.

CHAPTER XXII

BATTLE-GROUNDS AND ACHIEVEMENTS OF THE CONQUISTADORES OF THE CROSS

Yurimaguas, a flourishing town of nearly four thousand inhabitants, was founded in 1709 by a Spanish missionary, and named after the Yurimaguas Indians, who were formerly one of the most numerous and powerful tribes on the Amazon. They were forced to leave their former homes in order to escape the Portuguese slave-hunters, who frequently came from Pará and carried off into captivity all the members of the tribe whom they could find. So pernicious was the activity of these dealers in human flesh, and so great was the mortality—fully ninety per cent.—of the unfortunate victims of Portuguese greed and cruelty, that the number of Yurimaguas now living is but a small fraction of those who peopled the forests of the Amazon valley three centuries ago. It is thought by some that the women of this tribe were the Amazons whom Orellana encountered when he discovered the river which has since borne their name.

The town of Yurimaguas is interesting, among other reasons, because it is the head of steam navigation on the Huallaga. Two lines of Peruvian river steamers ply fortnightly between it and Iquitos, which is at present the terminus of ocean liners. As, however, the Huallaga can support vessels of much greater draft, than those which now plow its waters, it is probable that, when commerce shall demand it, small ocean steamers will ascend this great affluent of the Amazon as far as Yurimaguas. This, at all events, is the fond hope of the citizens of this enterprising and ambitious burg.

Thanks to the kind offices of the sub-prefect, I found, on boarding the steamer for Iquitos, that a special cabin, large and well furnished, had been reserved for my individual use. After roughing it so long among the mountains and in the woods, I felt as if I had been suddenly transferred to a *cabin de luxe* of a transatlantic greyhound. For the comforts—they seemed luxuries to me then—which I enjoyed on this trim little craft were in marked contrast with what was possible on the simple dugout which had safely borne me from Balsapuerto. And yet I cannot say that I enjoyed the commodious steamer, perfect as its appointments were, any more than I did the narrow piragua in which I had spent some of the most delightful hours of my life.

In addition to forty first-class and sixty second-class passengers, our boat carried eighty head of cattle, besides a goodly number of sheep and hogs, most of which were destined for the Iquitos market. The majority of the cattle had been brought from Balsas and Chachapoyas, and were, considering their long drive, in excellent condition.

There are along the Huallaga quite a number of villages and trading stations, the chief of which are Santa Cruz and Laguna, most of whose inhabitants are Indians or mestizos. The principal article of export from these places is *jebe*—rubber—of which large quantities are collected in the forest, for shipment to the United States and Europe. Otherwise, what one sees along the Huallaga is but a repetition of what is visible along the Cachiyacu and Par-anapura. The scenery is the same, the fauna and flora identical, and everywhere is the same struggle for life that so engaged my attention in the rich forest expanse between Moyobamba and Yurimaguas.

But much as these things had hitherto interested me, I found, while on my way to Iquitos, matter of quite a different character to occupy my thoughts. This was the Indian of the forest and his conversion by the missionary of days long since passed.

In many important respects, the aborigines of the woods in South America are quite different from their brethren of the plateau or of the desert coast-land along the Pacific. They are more nomadic in their habits, less amenable to civilization, more restive under restraint, and more difficult, therefore, to reach by the ministers of religion. This is particularly true of many tribes of the eastern part of Peru, but it was more so during the period immediately following the conquest.

Many families of certain Indian tribes, even before the arrival of the Spaniards, had fled to the montaña to seek the peace and liberty which they could not find on the highlands, and they looked upon the first white men—whether soldiers or missionaries—who entered their territory, with distrust, or regarded them as intruders. Besides these, there were other denizens of the forest who had probably fallen into the lowest depths of savagery. There were countless tribes, all speaking different tongues, and engaged in ceaseless warfare one with the other. To civilize, and Christianize these wild, ferocious nomads of the woods seemed like leading a forlorn hope, but, nothing daunted, the messengers of the Prince of Peace entered upon the work in a spirit that quailed before no danger and knew no defeat.

To me nothing in the whole history of Gospel extension is more sublime than the story of the evangelizing of the Indian along the Huallaga and the Amazon. For great as were the difficulties and countless as were the dangers along the valleys of the Orinoco and the Paraguay, those connected with the missions of the Huallaga and the Amazon were greater and more numerous.

In the first place the missionaries were a long distance from their base of supplies. In the beginning this was Quito. To go from this point to Laguna, the chief missionary center on the Huallaga, involved an arduous journey of two months afoot and by canoe, through trackless

forests and often through the territory of inhospitable and hostile tribes.

And when the evangelists arrived at their destination, there was the almost insuperable difficulty of learning the languages of the wild men of the woods. According to St. Jerome, there were seventy-two different languages spoken after the confusion of tongues at the tower of Babel, but, if we are to credit Padre Vieira, the number spoken by the Indians in the upper Amazon was far in excess of this figure. Every tribe, however small, had its own language, which, we are assured, was as different from that of the adjoining tribe as German is from Hebrew. This meant that every missionary, if his field of labor was at all extensive, had to be a polyglot.¹

But the greatest difficulty was not in the number of tongues that confronted the ambassadors of Christ. It was their exceeding difficulty—often little more than rough guttural sounds and grunts and grimaces²—and the almost total absence of abstract terms. To learn these tongues so as to construct a grammar that could be used by their associates and successors, and still more to find words to convey to the benighted Indian even the most elementary truths of religion, was, for the first missionaries, a tremendous task. Even so simple a word as “believe,” which has no equivalent in many Indian tongues, offered enormous difficulties to the catechist. What a laborious task must not therefore have been involved in the explanation of the Apostles Creed?³ It was well that the missionary

¹ According to Ameghino the number of languages and dialects in South America exceeds eight hundred. *Antigüedad del Hombre en La Plata*, Vol. I, p. 76, Buenos Aires, 1880.

² Padre Dobrizhoffer, in his *History of the Abipones*, declares that “the sounds produced by the Indians of the Chaco resembled nothing human, so do they sneeze, and stutter and cough.”

³ For an interesting statement of the difficulties of the languages spoken along the Huallaga and the Amazon, see *Noticias Autenticas del Famoso Río Marañón*, publicadas por primera vez por Marcos Jimenez de la Espada, Cap. III, Madrid, 1889.

The author of this invaluable work is conjectured by Jimenez de la Espada

confined himself to the fundamentals of religion and eschewed such recondite topics as election, reprobation, adoption and justification, with which John Eliot and his Puritan associates thought necessary to indoctrinate the Indians before recognizing them as Christians.¹

The poet Southey, in *A Tale of Paraguay*, has beautifully portrayed the crusader of the montaña, the conquistador of peace and virtue, in the following lines:

“Behold him on his way! the breviary
Which from his girdle hangs, his only shield;
The well-known habit is his panoply;
That Cross, the only weapon he will wield:
By day he bears it for his staff afield,
By night it is the pillow of his bed.
No other lodging these wild wood can yield
Than earth’s hard lap, and rustling overhead
A canopy of deep and tangled boughs for spread.”²

to have been an Italian missionary by the name of Maroni. But whether it was he or someone else, it is certain that the greater part, if not the whole, of the *Noticias* was written in the valley of the Amazon. For, in referring to the difficulties incident to its preparation he makes the following declaration: “He who knows the little or no tranquillity there is for writing histories in the huts of the savages recently gathered together, their importunity in besieging the missionary at all hours, and in fatiguing him with stupid questions; the enervating effect of the excessively hot climate; the swarms of mosquitoes and other insects, which infest even the eyes, when one wishes to read or write, not to speak of other annoyances, will not be surprised at the confused and unpolished presentation of my *Noticias*.” From the preface —*Al Lector Curioso*.

Compare *Up the Orinoco and down the Magdalena*, p. 150, in which a missionary on the banks of the Meta speaks of the same impediments to literary work. But, notwithstanding the difficulties under which the two writers in question were obliged to labor, it is safe to say that they have produced two of the most important and instructive volumes that have ever been written on the missions of South America. For the benefit of the reader, who may not be able to secure the exceedingly rare *Noticias Autenticas del Marañon*, in book form, it may be observed that the entire work has appeared, with notes, by M. J. de la Espada, in the *Boletín de la Sociedad Geografica de Madrid*, from 1889 to 1892.

¹ One of Eliot’s successors, Sergeant by name, although a Calvinist, declared he had “learned not to meddle with high themes, as predestination and the origin of evil, but preached faith, repentance and morality.”

² Canto III, Strophe 21.

His wants were few and he was content with the simplest fare and raiment. He may have been of noble blood and gentle nurture, but he was glad to exchange palace and chateau for a palm-thatched hut in Amazonian wilds. If he had not a cabin of his own, he gratefully accepted such shelter as was offered him by the denizens of the forest. It mattered not that it was dark and smoky and noisome, alive with loathsome insects and the common abode of filthy animals and jabbering or brawling men and women. He knew how to make himself all to all men, and how to win their hearts by patience, self-abnegation and sacrifice. He ate what was placed before him and concealed any repugnance that the strange and disgusting food, which was frequently offered him, was calculated to excite. He knew no luxuries, for all these he had left behind him in Europe. His usual fare was cassava-bread and fish, maize and plantain. If these could not be had he, like the Indian, would uncomplainingly appease his hunger by roots and nuts, ants, worms and other creeping things even more repulsive.

If his nomadic and whimsical children chose to change their place of abode, as often occurred in the beginning of their conversion, the padre followed them. Frequently their course was through dense morasses, when the wanderers were mired to the waist; at others it was along the rough bed of a mountain torrent, which so cut and inflamed the naked feet as to cause the most excruciating agony. It mattered not how long the journey lasted, or how great were the privations and sufferings that had to be endured, the brave and loyal shepherd never separated from his flock. He feared no danger and shrank before no difficulty. Perils, far from being a deterrent, had a charm for him, and the martyr's crown, that often awaited him in the discharge of duty, was the highest incentive to heroic deeds.

“Freely these faithful ministers essayed
The arduous enterprise, contented well
If with success they sped, or if as martyrs fell.”

If, through the machinations of jealous sorcerers and medicine men, or through the perversity of rebellious chiefs, whose passions made them dread the restraining influence of the Gospel, he sealed with his blood the noble career to which he had vowed himself, there was another ready and willing to take his place. "A rude field-cross by the corner of some forest and the inscription *hic occisus est*, is all that survives" to tell of his charity towards his fellow men, and of his obedience to the command of the Master, "*Euntes, docete omnes gentes*"—"Go and teach all nations."

"We fools accounted his life madness and his end to be without honor.

"Now he is numbered among the children of God, and his lot is among the saints."

But while making known to the children of the forest the essentials of the Gospel of Peace, the Spanish missionaries did not forget to teach them, *pari passu*, the arts of civilized life. They converted these wild hunters and fishermen into skillful artisans, herdsmen and tillers of the soil. They collected the roving and scattered tribes from the hidden recesses of the forest, and formed them into peaceful communities along the great waterways where fish and game were abundant, and where they could be always under the watchful eye of their spiritual guides and protectors. And, almost before the civil authorities of Quito and Lima were aware of the work that was being accomplished, the banks of the Huallaga and the Amazon were dotted with flourishing towns and villages, the homes of peaceful and happy Indians of many tribes and languages, who were more highly civilized than had been the Incas even in their palmiest days,¹ and whose children knew more of their Creator and of His relation to His creatures than did the wisest men of Cuzco. The conquistadores of the Cross,

¹ And more civilized than the Scotch Highlanders were less than two hundred years ago when, according to Lecky's *History of England in the Eighteenth Century*, Chap. VI, they were "sunk in the lowest depths of barbarism."

with only the crucifix in their hands, had in a few short years accomplished what neither Inca nor Spanish arms had been competent to achieve—the subjugation of the countless warlike and antagonistic hordes of the montaña.¹

And, what is more, in teaching the Indian craftsmanship and husbandry and stockraising, they prepared him not only to live as a civilized being, but also to earn his own living without any further assistance from the white man. The result was that Spanish America was but little vexed with that terrible Indian problem which, in our northern continent, led not to one but to three centuries of dishonor. In a few decades the followers of the Poverello of Assisi, of Dominic and Ignatius Loyola, were able to effect what our great statesman, Henry Clay, declared to be impossible—the civilization of the red man.²

And they achieved more than this. Acting on recommendations from their superiors, from bishop, sovereign and Pope, they brought about an amalgamation of the native and European races, and thus made impossible those frequent wars of extermination of the aborigines that have cost the United States tens of thousands of lives and more than half a billion of treasure. Instead of our vacillating and contradictory policy of treating the Indians at one

¹ "Reducirlos por armas se ha tenido siempre por imposible, respecto de que con mudarse de un lugar á otro é internarse en lo mas espeso de la montaña, como lo han hecho en las ocasiones que se les ha buscado, quedan frustradas las diligencias, perdidos los gastos y espuestas muchas vidas por las enfermedades que se contraen. Y es la unica esperanza que admitan misioneros, y que estos con halagos y otras industrias los atraigan, que ha sido el modo con que se has logrado las reducciones que van referidas, y sera mayor la conquista de un misionero que la que puede hacer un numeroso ejercito." *Memorias de los Vireys que han Gobernado el Peru durante el Tiempo del Coloniaje Espanol*, Tom. IV, p. 63, Lima, 1859.

² "Mr. Clay [when Secretary of State] said that it was impossible to civilize Indians; that there never was a full-blooded Indian who took to civilization. It was not in their nature. He believed they were destined to extinction, and, although he would never use or countenance inhumanity towards them, he did not think them, as a race, worth preserving. . . . They were not an improvable breed, and their disappearance from the human family will be no great loss to the world." *Memoirs of John Quincy Adams*, Vol. VII, p. 90, Philadelphia, 1875.

time as sovereign and independent nations,—making with them nearly seven hundred solemn treaties and covenants, which were broken almost as soon as signed, and at another as hosts and then enemies, and at still another as wards, pensioners, paupers and lunatics, they recognized them as children of a common father and acted towards them with a consideration that was in marked contrast with the relentless cruelty and injustice which ever characterized our dealings with them in our land of boasted freedom and equality.

Even Raynal, who was certainly no friend of religious orders, is forced to admit that certain of the missions in South America “had arrived at perhaps the highest degree of civilization to which it is possible to conduct a young people and certainly at a state far superior to that which existed in the rest of the new hemisphere. The laws were respected there, morals were pure, a happy brotherhood united every heart, all the useful arts were in a flourishing state, and even some of the more agreeable sciences. Plenty was universal.”¹

In these same missions, we are assured, “not a mortal crime was committed in a year.” And it is recorded of the Cahuapanas, a tribe on the Amazon, that, so great was the humanizing effect of Christian teaching in them, that such a thing as a man abusing his wife by act or word was entirely unknown.

Such results could never have been achieved, had not the missionary’s heart been in his work, and had he not had a genuine affection for the people committed to his care. That this love for his neophytes existed, is evidenced by the fact that only obedience could withdraw him from his cherished children, and when he was separated from them he was unhappy until he could rejoin them. Some of the missionaries spent forty years and more among their spiritual children, and accounted these the happiest years of

¹ *Histoire Politique et Philosophique des Etablissements et du Commerce des Européens dans les Deux Indes*, Vol. IV, p. 289, Genève, 1780.

their lives. One of them, who had labored long among the Indians of the upper Amazon, expresses it as his belief that the love which a missionary has for the children that he has engendered in Christ is greater than that of any carnal father or mother—*excede á mi ver á todo amor de padre y aun de madre carnal*.

This affection of the missionary was fully reciprocated by his spiritual children. He could lead them where he would. When he was with them they were happy; when he was absent they were forlorn. Even to-day, after an absence of a century and more, the father-priest, as he is called, is a name to conjure with among many Indian tribes of the montaña, who know of him only through the traditions which have come down to them from their forefathers. Wherever his ministrations have been felt, his memory is still green. They still long for his return, and wonder why he remains away from them so long. And if he were to return again, he would be joyfully acclaimed by young and old, as he was generations ago,

“Their Father and their Friend, Priest, Ruler, all in all.”¹

But when we consider the legislation which governed the Spaniard and his relations with the American race, and the point of view from which the aborigine was ever regarded, it is not surprising that the results achieved in dealing with the Indians have been so much more satisfactory in Latin America than those realized in the United States, and that the present status of the red man in Spain's former colonies in the New World is incomparably superior to that of his dusky brother in the north. In most parts of South as well as of Central America, the Indian enjoys by law the same rights of citizenship as the white man, and may aspire to the highest offices in the gift of the people. Full-blooded Indians, as well as half-castes, have, ever since the

¹ Cf. *Voyage d' Exploration d' un Missionnaire Dominicain chez les Tribus Sauvages de l'Équateur*, Paris, 1889.

conquest, achieved marked distinction in every walk of life, from the vale of Anahuac to the pampas of Argentina.

"The Fatherhood of God and the Brotherhood of Man" was not a mere idle phrase in the mouth of the Spanish viceroy, and still less in that of the Spanish missionary. They endeavored honestly to carry out the instructions of their sovereigns and the commands of the Popes regarding the treatment of the Indians, and if their results sometimes fell short of the wishes of civil and ecclesiastical authorities, it was not the fault of legislation, but of the inefficiency and corruption of the agents to whom the execution of the laws was entrusted. For never in the entire history of conquest were the laws made in behalf of the conquered so just or so beneficent. If the reader has any doubt of this let him peruse the bulls and briefs issued in favor of the American indigenes by Paul III in 1537, Urban VIII in 1659, Clement XI in 1706 and Benedict XIV in 1741. Let him study the laws framed by Charles V, Philip II, the Council of the Indies, and the bishops of the New World in council assembled. Let him ponder the will of the immortal Isabella, whose last thought was for her cherished subjects beyond the sea.¹

Pope Paul III pronounced a sentence of major excommunication against those who should deprive the Indians of their liberty or goods, and to safeguard the weaker race against those who should always be their fathers and protectors *ex officio*, the first council of Lima issued a decree of excommunication against those having the cure of souls, who should abuse or oppress the Indians under their charge. And so much had Philip II the welfare of his new vassals at heart that he enacted a law that "the offenses committed against the Indians should be punished with greater severity than those committed against Spaniards."²

Philip IV went even so far as to decree that those who

¹ *Historia Ecclesiastica Indiana*, p. 31, por Fray Geronimo Mendieta, publicada por Joaquin Garcia Icazbalceta, Mexico, 1870.

² *Recopilacion de las Leyes de las Indias*, Tom. II, Lib. VI, Tit. X.

did not conform to the instructions contained in the briefs of Paul III and Clement VIII, respecting the Indians, "should be handed over to the Inquisition to be judged."

And yet more. "From a fear lest they"—the Indians—"should be imposed upon in their dealings with the Spaniards, they were," writes Helps, following Solorzano, "considered by the law as minors. It is hardly possible to carry legislation further in favor of any race or class."¹

But, notwithstanding all this beneficent legislation in favor of the aborigine, he was, nevertheless, in many instances, the victim of the gravest injustice and the most barbarous cruelty. Of this, however, I shall not speak. The eloquent Las Casas has told once for all the story of the Indian's wrongs in a way that admits of no addition. Still it is not Spain that is to be held responsible for the inhumanity practiced, but those of her cruel sons whose lust of gold and power made them robbers and oppressors of those of whom they should have been the defenders and guardians. No country ever did more to protect the weak against the strong, to shield the innocent and the helpless from the tyranny of the soulless invader. And how ably she was seconded in her endeavors by her prelates and missionaries, by Zumarraga in Mexico, by Piedrahita in New Granada, by Loyasa and Toribio in Peru, by Dominicans, Franciscans, Jesuits everywhere, but especially along the Amazon, the Orinoco, the Rio de la Plata and their tributaries, who strove by every means in their power, to enforce the decrees of Pope and sovereign, and continue the great work so nobly begun by Las Casas!

But no legislation of the crown, and no devotion of the missionary was competent to eliminate entirely the iniquity of wicked governors, and the machinations of heartless adventurers and ambitious soldiers of fortune. Separated

¹ *The Spanish Conquest in America*, Vol. IV, p. 246, London, 1904. "Gocen," writes Solorzano, "de todos los favores y privilegios que á los menores . . . se conceden, así en lo judicial, como en lo extrajudicial." *Politica Indiana*, Tom. I, Lib. II, Cap. XXVIII, Madrid, 1776.

from Spain by the broad ocean, and from the viceroy by trackless forests, these enemies of law and order felt free to follow their own caprices regardless of the injustice or suffering that might be entailed on the defenseless natives. Where they did not openly violate the law, they treated it as a dead letter. "*Se obedece pero no se cumple*"—"I obey but I do not fulfill," was the attitude that many of the representatives of the government in the New World assumed towards the instructions which were received from the mother country. And when we reflect that it took months and sometimes years to reach the offenders and right the wrongs they had committed, the wonder is that the helpless Indian fared as well as he did.¹

Fortunately, Spain had but few such infamous agents as Ovando and Pedrarias. And fortunately, too, in spite of the inhuman tortures which individual Indians suffered at the hands of the Spaniards, the race in South America has

¹ When we speak of the atrocities of the Spaniards towards the Indians, in spite of the laws that were made or their protection by Rome and Madrid, we must remember that we are dealing with an age when similar, if not greater, cruelties were practiced on the negro in other lands, and by peoples who affect horror at the treatment of the Indians in the Spanish colonies of the New World. Let us remember that these hapless Africans, unlike the Indians, had "no rights, no protection against the caprices of irresponsible power"; that John Hawkins, who was the first Englishman to take part in this nefarious traffic in human flesh, was knighted by Elizabeth for his achievements—"burning and spoiling the towns" of the natives of Guinea; that the English Parliament, far from protecting the black man, encouraged the slave trade, and that "in the century preceding the prohibition of the slave trade by the American Congress in 1776, the number of negroes imported by the English alone into the Spanish, French and English colonies can, on the lowest computation, have been little less than three millions, and that we must add more than a quarter of a million who perished on the voyage, and whose bodies were thrown into the Atlantic."

"These figures," as Lecky well observes, "are in themselves sufficiently eloquent." We have here almost as many negroes ruthlessly torn from their homes and sold into "a hopeless, abject and crushing servitude," in one century and by one nation, as there were Indians in the whole of the present territory of Peru at the time of the conquest. See *A History of England in the Eighteenth Century*, Vol. II, p. 242 et seq., New York, 1892, and Bancroft's *History of the Colonization of the United States*, Vol. III, Chap. XXIV, Boston, 1860.

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survived, and by its fusion with its conquerors, it has continued to propagate and to rise in the scale of humanity.

This is the reverse of what has taken place in our country. Certain individual Indians have been spared the cruelties which were inflicted on their brethren under Spanish rule, but the race has been forced to recede before the relentless advance of the white man, to go down fighting for their homes and rights, or to be herded on reservations, until driven thence by the cupidity of those whom they are powerless to resist.

“The Spanish national conscience recognized the obligation of civilizing and Christianizing the Indians, a task which Spaniards finally accomplished.” This is manifest everywhere in Spanish America, where even in the larger towns and cities, Indians and half-castes constitute a majority of the population. And the process of amalgamation that was begun in the first days of the conquest still continues, and the mixed race, resulting from the intermarriage of whites and Indians, is daily rising in civilization and culture, power and influence.

Unfortunately, however, for the Indians along the Huallaga and the Amazon, as for their brethren in the territory watered by the Orinoco and its affluents, the splendid missionary enterprise that achieved such remarkable results in the seventeenth and eighteenth centuries, has been allowed to languish, and one now looks in vain for that activity and zeal which at one time commanded the admiration of the entire Christian world.

The first blow to the missions came when the Jesuits were expelled from the Spanish colonies in 1767 by Charles III for reason *ocultas y reservadas*.¹ The second was delivered a few decades later by the leaders of the War of Independence, when members of other religious orders were driven from the scenes of their missionary labors. Since

¹ “Mis razones solo Dios y yo debemos conocerlas.” *Historia del Reinado de Carlos III en España*, Vol. II, p. 122, por Antonio Ferrer del Río, Madrid, 1856.

then, owing to the constantly perturbed condition of a greater part of the continent, and the crippled financial condition of most of the republics, little has been done for the Indians in the vast territories watered by the Amazon, the Orinoco and their tributaries; and, as a consequence, many tribes that had, under the missionaries, made such notable advances in civilized life, have lapsed into barbarism and returned to their former wild life in the recesses of the forest.

Everywhere along the Paranapura, the Huallaga and the Amazon, there exist the same evidences of ruin and abandonment as I had observed along the great waterways of Venezuela and Colombia. Where, during the heyday of missionary activity, there were flourishing towns and villages, there are now but a few rickety huts tenanted by a few wretched Indians, or a riot of tropic growth, which conceals every trace of former human habitations. Where there were at one time extensive grazing lands, over which roamed tens of thousands of cattle,¹ the property of peace-

¹ Before the expulsion of the missionaries there were on the *llanos* of Venezuela and Colombia more than two hundred thousand head of cattle in charge of mission Indians, where there is now little more than a wilderness. In Paraguay, according to a recent traveler, "The vast *estancias*, in which at the expulsion more than a million head of cattle pastured, were but bare plains, in which the cattle that were left had all run wild or perished from neglect." R. B. Cunningham Graham, *A Vanished Arcadia*, p. 285, New York, 1901.

Great, however, as was the economic loss to Spain and subsequently to the Spanish republics of South America, the loss in territorial possessions caused by the expulsion of the missionaries, and the consequent return of the Indians to their former wild forest life, was far greater. The decree of Charles III at once jeopardized the integrity of his South American colonies, and paved the way for the usurpations of the Portuguese in Brazil. While the missions were in existence, Portuguese plans for territorial expansion were successfully thwarted. But no sooner had the missionary phalanx been removed, than the Portuguese began to move up the Amazon and to extend their frontier toward the Cordilleras. "The possession of these usurpations," as has well been remarked, "facilitated at a later date the occupation by Brazil of the whole of the belt east of the Andes, the most valuable part of all America." Cf. *Noticias Secretas de America*, p. 542, por Don Jorge Juan y Don Antonio de Ulloa, London, 1826.

It is interesting to speculate what would be the present condition of the

ful and industrious natives, there is now a wilderness with every vestige of civilization entirely obliterated.

When I contemplated these scenes of desolation made desolate, my heart grew heavy. I pitied the abandoned Indians who, while under the benign guidance of the padres, had rapidly risen from the low states of savagery, in which they had been found, and who gave promise of soon emulating their brethren on the plateau as Christians and citizens, and marveled at the mote-eyed policy of the governments concerned in not converting all this latent energy into useful channels, instead of allowing it to go for naught. Sound political economy, if not Christian charity and Christian statesmanship should, one would think, impel legislators and philanthropists to make provision for again taking up the work which was so unfortunately interrupted by the expulsion of the missionaries who had so nobly demonstrated their capacity as Christianizers and civilizers. To permit thousands of able-bodied men to roam wild in the forest, when they could be made, as they were before, useful and productive citizens, seems to evince not only a deplorable lack of statesmanship but also a total absence of that humanitarian spirit which should dominate the councils of every Christian republic.

Say what we will against the Spaniards, the Indian of the montaña fared far better under Spain than he has ever fared under any of the South American republics. For, with the single exception of Charles III, in the instance cited, the Spanish monarchs were always generous, and at times munificent in their support of the Indian missions, and gave the directors of them every assistance in their power. Nor was there but a feint of sincerity in their pro-

Indians in the montaña, if the salutary work of the missionaries had not been interrupted by Charles III and Bolivar. It is certain that the broad zone east of the Andes, extending from the llanos of Colombia to the pampas of Argentina, would be a much greater economic and political asset than it is now, and it is equally certain that the frontier between Brazil and the various Spanish republics would have quite a different location.

fessed love for their dusky subjects of the American forest. They were all moved by the same spirit that actuated Philip II when he refused to abandon the Philippines, because they were a source of expense instead of revenue to the Spanish crown.

And the leading conquistadores, in spite of their faults and the cruelties of many of them, manifested a genuine and practical interest in the conversion of the Indian, and, like their sovereigns, were ever ready to coöperate with the ministers of the Gospel in securing for the conquered races the benefits of Christian civilization and culture.

"The conversion of the heathen," writes Prescott, "was a predominant motive with Cortes in his expedition. It was not a vain boast. He would have sacrificed his life for it at any time, and more than once, by his indiscreet zeal, he actually did place his life and the success of his enterprise in jeopardy. It was his great purpose to purify the land from the brutish abominations of the Aztecs by substituting the religion of Jesus. This gave to his expedition the character of a crusade. It furnished the best apology for the conquest, and does more than all other considerations toward enlisting our sympathies on the side of the conquerors."¹

Even that "son of sin and sorrow," Francisco Pizarro, was not the base and mercenary character that he is frequently depicted. Neither of him nor of his companions, with certain exceptions, can one truly say that the lust of gold was the sole "stimulus to their toil, the price of perfidy, the true guerdon of their victories." There may have been, among his followers, "convicts and ruffians, the sweepings of prisons and purlieus," but it is paltering with truth to say even of the conquerors of Peru,

"Bajo color de religion
Van á buscar plata y oro."¹

¹ *The Conquest of Peru*, Book XIV, Chap. V.

² "Under the color of religion, they go in quest of gold and silver."

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I do not say that Pizarro and his companions did not desire gold. They did desire it, and, under the circumstances, it could not have been otherwise. But the desire for riches was secondary. For they recognized that, high above gold, there is a sphere in which man ennoble himself by serving God and humanity. They desired glory, but they desired to secure it by propagating the religion of Christ which their fatherland, notwithstanding the weakness of poor humanity, loved with an ardor that has never been surpassed.¹ They were first and foremost crusaders of the Faith, and could say with Calderon's *Principe Constante*,

“La fe de Dios á engrandecer venimos
Suyo será el honor, suya la gloria.”²

They had the faith that guided Columbus across the Sea of Darkness, that carried Cortes to the capital of Montezuma, that conducted Quesada to the plateau of Cundinamarca, that led Orellana down the mighty Amazon,—the faith, which, as Lope de Vega beautifully expresses it, gave

“Al Rey infinitas tierras.
Y á Dios infinitas almas.”³

With the conquistadores of the sword and the conquistadores of the cross acting in concert and striving to carry out

¹ For an account of the conquest that does more justice to Pizarro in his dealings with the Indian than is usually accorded him, the reader is referred to *Historia del Peru*, Lib. II, Cap. XVII, and Appendice XII, by P. Ricardo Cappa, Lima, 1886. Referring to this subject, Sr. E. Larrabure y Unanue declares that “It is a fact not sufficiently understood that it was not only the thirst of gold but also the love of glory and patriotism that were the prime movers which animated Nuñez de Balboa as well as the sympathetic Hernando Cortez, Francisco Pizarro and Almagro, Juan de la Torre and many others; and it is now time that we should be just, without inclining the balance more to one side than to the other.” *Monografías Historico-Americanas*, p. 407, Lima, 1893.

² “We have come to aggrandize the faith of God. His will be the honor, His the glory.”

³ “To the King infinite lands, and to God infinite souls.”

the instructions of Pope and sovereign respecting the native races, it is not surprising that such beneficent results were achieved, and that the Indians of Latin America to-day are so numerous and occupy so much higher a plane in civilized life than do their maltreated brethren in the United States. Had they not come under the baleful influence of soulless adventurers or heartless *encomenderos*, the results would be far more glorious, and the historian would now be spared the recital of those stories of cruelty and atrocity which have so dimmed the splendors of the otherwise marvelous achievements of the Spanish conquest.

Kingsley, commenting on the present condition of Trinidad, and considering what the aborigines might be to-day, had the relations of the Spaniards towards them been different, exclaims, "What might this place have become during the three hundred and fifty years that have elapsed since Columbus first sailed around it! What a race, of mingled Spaniard and Indian, might have grown up throughout the West Indies! What a life, what a society, what an art, what a science it might have developed ere now, equaling, even surpassing, that of Ionia, Athens, and Sicily, till the famed isles and coasts of Greece should have been almost forgotten in the new fame of the isles and coasts of the Caribbean Sea."¹

But if this could be said of the natives of the West Indies, with how much greater truth could it be asserted of the aborigines of Peru, of those wonderful Incas whose musical speech is still heard from Santiago del Estero to the banks of the Huallaga and the Amazon? What a beneficent moral revolution would have been effected, if the example of the earliest conquistadores, in marrying the noble daughters of the Incas, had been followed by their successors! What a vigorous and intelligent offspring would have resulted from the crossing of races so distinct and so superior as those represented by the *ñustas* of Cuzco and Quito, and

¹ *At Last*, p. 154. New York, 1905.

the hidalgos of Castile and Andalusia! How these daughters of the blood royal, raised to the dignity of wives of the conquerors would, by their position and influence, have contributed to the elevation of their less fortunate sisters, by having them see that the foreigners, far from regarding them as pariahs of an abject race, treated them as equals! Had the repeated orders of the crown of Castile been obeyed, that, so far as compatible with individual liberty, the Spaniards should be induced to wed the princesses of the line of Manco Capac, what a splendid race would now command our admiration through the length and the breadth of what was once the great Inca empire! Scholars and historians like Garcilaso de la Vega and Bishop Piedrahita, to mention but two half-castes resulting from such unions—many others might be mentioned—suffice to demonstrate the wisdom of the policy of both Spain and the Church regarding the amalgamation of the races of the New and the Old Worlds.¹

But great as was the work of the missionaries, wherever the banner of Castile and Leon was unfurled, in civilizing and Christianizing the aborigines, I cannot close this chapter on their achievements in the montaña without some reference to their contributions to our knowledge of the country which they knew so well, and of the people among whom they labored to such good purpose.

Strange as it may seem, the lands drained by the Hualaga and the Amazon were better known two centuries ago than they are to-day, and most of the knowledge which we now possess respecting the various tribes that formerly inhabited this broad territory, is derived from the works of missionaries, some of whom wrote more than three centuries ago. For, contrary to what is often thought, the first explorers of many of the great rivers of South America were not government agents or the representatives of learned societies, but the members of various religious

¹Cf. *L' America un Tempo Spagnuola*, Tom. II, Cap. XIX, di Gaetano Baluffi, Ancona, 1845.

orders, who distinguished themselves by writing books and making maps, as well as by preaching to savages.

Thus the first and best map of the montaña of Peru, embracing the immense territories watered by the Huallaga and the Ucayali, is the work of the Franciscan, Padre Sobreviela, aided by a confrère, Padre Girbal y Barcelo. "This accomplished priest," says Raimondi, "stands head and shoulders above all the other missionaries who have traversed the inhospitable forest region located at the east of the majestic Cordillera of the Andes of Peru, and is one of those who have contributed most to the progress of geographical science.

"His map of the montaña, published in 1791, the greater part of which the distinguished missionary personally explored," the same eminent geographer continues, "gives a clear idea of the extent of the infinite labors of the small and pacific crusade of the self-sacrificing missionaries who sprinkled with their blood those virgin forests during their gradual conquest of the heathen. It shows the numerous pueblos, which those patient and valiant soldiers of the Faith had succeeded in founding during their long and laborious task—pueblos the result of many years of assiduous and constant labor—which have unfortunately disappeared.¹ It shows also that more than a century and a half before Humboldt went to Peru, and more than two centuries before our first American explorers, Herndon and Gibbon, descended the Huallaga and the Madeira, the zealous sons of St. Francis had made the famous Pampa del Sacramento, bounded by the Huallaga and the Ucayali, the theater of their missionary labors.²

¹ *El Peru*, Tom. II, Cap. XXX.

² The reader who is interested in the Franciscan missions on the Huallaga and the Ucayali, may consult with profit, *Crónica de la religiosísima provincia de los Doze Apostoles del Peru de la Orden de N. P. S. Francisco de la regular observancia*, Cap. XXXII to XXXIV, por el R. P. Fr. Diego de Cordova Salimas, Lima, 1651, and *Compendio Historico de los Trabajos, Fatigas, Sudores y Muertes que los Ministros Evangelicos de la Serafica Religion han padecido por la Conversion de las Almas de los Gentiles en*

The first map of the Amazon of any value was made by Padre Fritz, a Bohemian Jesuit, who spent forty years as a missionary among the Indians of the Huallaga and the Amazon.¹ He was the first to explore the Amazon from its source to its mouth, and the first to correct the error of Padre Acuña and others, who regarded the headwaters of the Napo, and not Lauricocha, as the source of the world's greatest river.

When one remembers that this indefatigable explorer had to make his long journeys up and down the Amazon and its tributaries in a simple dugout, that his map was constructed without instruments for determining longitude, and with only a wooden semicircle, three inches in diameter, for obtaining latitudes, it is really surprising that he was able to accomplish as much as he did. It is only when one compares it with the map executed a half century subsequently by the noted academician, La Condamine, that one realizes the merit of his performance.²

An adequate account of the contributions made to geographic and ethnologic science by the early missionaries in South America, would require a large volume. Many of their works have been published, some of them only recently, while others still exist in manuscript in the archives of various religious orders to which the missionaries belonged. And some of them, alas! have been lost or destroyed. Thus, many priceless manuscripts treating of the expeditions and labors of the missionaries among the divers

las Montañas de los Andes pertenecientes a las Provincias del Peru, por el P. Fr. José Amich, Paris, 1854, and *Memorias de los Vireys*, Tom. VI, Cap. IX. for the Montaña Real, and the interesting map of this region made in 1795 by the Franciscan missionary, Fray Joaquin Soler, but four years after the publication of Sebraviela's map.

¹ Sanson's map of the Amazon, which was based entirely on Padre Acuña's *Nuevo Descubrimiento del Gran Río de las Amazonas*, and made without the aid of astronomical or geodetic data of any kind, has no merit whatever, except that of being the first.

² See map in *Relation Abrégée d'un Voyage fait dans l'Intérieur de l'Amérique Méridionale*, par M. de la Condamine, Maestricht, 1778.

Indian tribes, now extinct, were lost at the time of the expulsion of the Jesuits by Charles III.

To read certain recent works on South America, one would infer that the exploration of most of the tributaries of the Orinoco, the Amazon and the Plata has been the work of German, French, English or American travelers during the past hundred years.¹ Thus, to give two instances of many that might be adduced, three centuries before Crevaux lost his life under the blows of the Toba in the Gran Chaco, San Francisco Solano, a Franciscan, had descended the Pilcomayo "to its junction with the Paraguay, through territories but little explored even to-day." And a century and a half before the ill-fated Frenchman, just mentioned, had his brilliant career cut short, the very region he started to explore had been fully described by the missionary, Padre Pedro Lozano, in an elaborate work which gives a full account of its fauna, flora, inhabitants and chief geographical features.

And, still more remarkable, nearly three centuries and a half before Orton voyaged down the Napo he had been preceded by a son of St. Dominic, Fray Gaspar de Carvajal, who has left us a precious record of the expedition in which he took so conspicuous a part. But of this more in the following chapter.

In the minds of many the montaña of Peru and Ecuador is still as much of a *terra incognita* as was equatorial Africa

¹ Cf. *Boletín de la Sociedad Geografica de Madrid*, Tom. VII, p. 333, et seq., wherein Marcos Jiménez de la Espada shows that the Putumayo, which a certain French publication had stated was unknown until its exploration by Crevaux in 1879, had been explored by Juan de Sosa in 1609, and that, nearly two centuries before the intrepid Frenchmen had visited this part of the world, the region drained by this great tributary of the Amazon counted several flourishing Franciscan and Dominican missions.

More remarkable still, *L' Exploration*, Paris, of Feb. 17, 1881, speaks of a trip made by M. Charles Wiener down the old and well-known missionary route by way of the Papallacta and the Napo as something that had never before been undertaken—*que n' avait jamais été entrepris*—as an expedition which the natives pronounced impracticable—*une expédition que les gens du pays jugeaient entierment impracticable!!!*

before the expeditions of Speke, Stanley and Schweinfurth. That this should be the case, shows how little attention has been given to the numerous works, many of them of rare merit, which have been written on the missions of the Huallaga and the Amazon and its western tributaries. Many of the most interesting of these books have been written by missionaries who devoted the best years of their lives to evangelizing and civilizing the Indians in these little-known regions, while others were compiled from letters and reports sent by the missionaries to their respective superiors. If the general knowledge of these works compared with their merits, few parts of South America would be better known than the scenes in the upper Amazon basin of the great missionary activity of the seventeenth and eighteenth centuries.

And yet more. Like Africa of old, this same montaña is still, even by those who should be better informed, regarded as a *terra portentosa*—a land infested by dread savages and ruthless cannibals—which one may not traverse without always being in imminent danger of losing his life. Such a view, as has already been indicated, is utterly without foundation in fact.

But, how much better would be the present condition of this extensive country, how much thriftier and happier the Indians would now be, if the padres, who achieved so much for their forefathers, had been left among them to continue their labor of love, can easily be divined by those who will but glance at some of the works bearing on the development of Christianity and civilization in this much neglected part of our sister continent.

We honor, and deservedly so, explorers like Livingstone and Mungo Park, Humboldt and Bonpland, who risked health and life to extend our knowledge of the earth and its inhabitants, but while we unite in giving them the meed of praise which is their due, let us not forget the names of Gaspar de Carvajal and Laureano de Cruz, Fritz, Veigel,

Sobraviela and Soler, the heroic missionary explorers of the Huallaga and the Amazon.¹

¹ Among the most valuable works, besides those referred to, bearing on the missionaries as evangelizers and explorers of the Huallaga and the basin of the upper Amazon, are the following: *Descubrimiento del Rio de las Amazonas segun la Relacion hasta ahora Inedita de Fr. Gaspar de Carvajal*, Sevilla, 1894; *Nuevo descubrimiento del rio Marañon, llamado de las Amazonas, hecho por la religion de San Francisco, año de 1651*, por Fr. Laureano de la Cruz, Madrid, 1890; *Viage del Capitan Pedro Texeira aguas arriba del Rio de las Amazonas, 1637-1638*, Madrid, 1889; *Nuevo descubrimiento del gran rio de las Amazonas por el Padre Cristovul de Acuña*, Madrid, 1641; *El Marañon y Amazonas, por el Padre Manuel Rodriguez*, Madrid, 1684; *Historia de las Misiones del Marañon Espanol*, por P. Jose Chantre y Herrera, Madrid, 1901; *Relacion de las Misiones de la Compañia de Jesús en el Pais de los Maynas*, por el P. Francisco de Figueroa, Madrid, 1904; *Lettres Edifiantes et Curieuses*, Tom. II, *La Partie, Amérique Méridionale*, Paris, 1841, and numerous articles in *Mercurio Peruano*.

CHAPTER XXIII

ROMANCE OF THE AMAZON

Θάλαττα, θάλαττα—The Sea! The Sea!—was the joyous shout of Xenophon's brave ten thousand when, after their long and eventful march over the plains and mountains of hostile Persia, they at last, weary and footsore, caught, from the heights of Mt. Theches, the first long-desired glimpse of the shimmering waves of the friendly Euxine. They felt then that the dangers and harassments of their arduous expedition were finally at an end, and that they would soon be among their own countrymen, from whom they had so long been separated.

A similar feeling, but for a different reason, dominated me, when, from the embouchure of the Huallaga, I descried the broad waters of the majestic Amazon. I had, it is true, seen it before, but it was then but a brawling stream, or a cañon-cutting torrent in the Cordilleras. Now it was the mighty Orellana sweeping along in silent dignity and

“Swell'd by a thousand streams, impetuous hurl'd
From all the roaring Andes.”

The reader will then understand the almost overmastering impulse, that swayed me at the first view of this long and eagerly sought Father of Waters, and nearly impelled me to express my delight, as did the Greeks of old, by an exultant shout. But although I repressed my emotion, so far as the shouting was concerned, I made no attempt to restrain my joy on attaining at last the goal of the heart's desire, and the enthusiastic manner in which I exclaimed, “The Amazon! The Amazon!” afforded not a little amusement to the native passengers, who could see no more

in this great waterway than in its noble tributary on which we had been sailing, and which almost rivaled in magnitude the stupendous flood which we were just entering.

The shades of night were falling as we reached the mouth of the Huallaga, but, we had scarcely gotten out on the broad expanse of the Amazon, when river and forest were lit up by the subdued light of the rising moon. The vision was grand and sublime beyond expression. The silent and tawny flood, as it rolled with resistless momentum towards the distant ocean, cutting away its banks in one place and building up islands in another; the dark and solemn wilderness investing this somber and immemorial waste of waters—all were calculated to awaken emotions of sublimity and awe such as I had rarely experienced before in any part of the world.

So prodigious is the mass of water which this immense river carries to the Atlantic that it surpasses, according to Paz Soldan, that of the combined floods of the Obi, Lena, Amoor, Yellow, Yang-tse-Kiang, Ganges, Indus, Euphrates and Yellow river—the eight great rivers of Asia. And so deep is it that La Condamines was unable, near its confluence with the Purus, to find bottom at a depth of one hundred and three fathoms. Its width varies with the seasons. With the exception of the narrows near Obidos, it is usually several miles wide, even in its upper reaches, but, during the rainy season, the whole country is submerged over an area of tens of thousands of square miles. Then the river presents the appearance of a vast inland sea and justifies the name given it by the early explorers of *Rio-Mar*—River-Sea. So great, indeed, is the flood that then comes pouring down the eastern slopes of the Andes through the countless water-courses that furrow this great mountain chain, that the Amazon in places rises to a height of no less than thirty or forty feet above what it is during the dry season.¹

¹ The difference between the highest and lowest level at Iquitos is from thirty to forty feet; at Manaos and other points in Brazilian territory it varies from forty to sixty-five feet.

When the inundation is at its height, the water in places rises almost to the crowns of the giants of the forest.¹ Then the view of this inland sea—the Mediterranean of South America—is indescribably imposing. Animals and men seek refuge in the tree-tops, and calmly await the subsidence of the flood. The noted missionary, Padre Fritz, tells us how he was detained a prisoner for nearly three months in the top of a tree, living on fish, wild fruit and plantains, and how his life was in constant danger from the number of crocodiles and other wild animals that gathered about him during this trying period, contesting his possession of this precarious lodgment and robbing him of the scanty stock of provisions that stood between him and starvation.

During such times the ocean seems to have invaded the interior of the continent, as if to regain possession of the vast territory which formed a part of its empire even during late geologic time, and one then wonders if one will ever again see *terra firma* rise above the turbid, relentless and unbounded waste of waters. But, in spite of appearances to the contrary, the deluge, after a few months' triumph, gradually subsides, and the great Amazonian basin resumes its wonted aspect. Wild beasts again seek their lairs and the Indian unburies his store of mandioca, which,

¹ The height of the trees along the Amazon rarely exceeds one hundred feet, which is far below that of our towering pines and red-woods of Washington and California. There is, however, a notable exception, namely, the *Bertolettia excelsa*, commonly known as the Brazil-nut tree. This superb tree frequently towers a hundred feet and more above the surrounding forest. Its stately trunk, which is often without a single branch for a hundred feet, is sometimes from ten to fifteen feet in diameter and is surmounted by a noble, thick-leaved crown, which is visible at a great distance. Although not so high, a more imposing forest monarch is the Sumaumeira—*Eriodendron Sumauma*. There is one on the Rio Branco, whose dome of foliage can give shelter to ten thousand men. This eclipses completely the famous chestnut tree on Mt. Etna and the mammoth Baobab of Senegambia. The ancients would have deified such a product of telluric fecundity, and the druids of Gaul and Britain would have held it in greater veneration than either the oak or the mistletoe. The Sumaumeira is remarkable for being one of the few Amazonian trees that periodically shed their leaves.

during the wild carnival of the sovereign of rivers, he had entrusted to the keeping of mother earth.

A fact that cannot fail to impress one who travels from the source to the mouth of the Amazon is the number of names it bears. As it emerges from its birthplace, Lauricocha,¹ in the lofty fastnesses of the Cordilleras of Peru, it is known as the Tunguragua. But after coursing a short distance through the deep ravines of the Andean plateau, it receives the name Marañon, which it retains until after it issues from the stupendous Pongo de Manseriche. Somewhere below this point, some say at the mouth of the Huallaga, others at the embouchure of Ucayali, the name Marañon is replaced by that of the Amazon, by which the great river is known, at least by the Spaniards, until it enters the Atlantic. The Brazilians and Portuguese add to the confusion of names by calling the section of the river between the Peruvian frontier and the mouth of the Rio Negro the Solimões, from a tribe of Indians who formerly occupied its banks in this part of its course.

But numerous and conflicting as are the present designations of the river, they are unimportant in comparison with the diversity of names it bore in the early part of the sixteenth century. Then it was variously known as Rio Grande, the Rio Grande del Agua Dulce and the Sea of the Rio Grande. The famous pilot, Juan de la Cosa, in his mapamundi of 1501, calls the embouchure of the river by

¹ Raimondi, contrary to the opinion of most geographers, contends that the source of the Rio de la Nupe is the true fountain head of the Amazon. As this work is going through the press it is announced that Dr. Wilhelm Sievers, a noted explorer in and authority on South American geography, has finally located the fountain-head of the Amazon in a snow mountain called San Lorenzo, about one hundred miles southwest of Lauricocha. "Here the waters from some glacier fronts are gathered into a stream that forms the little Lake Caballo Coca 15,580 feet above the sea. Out of this lake flows the pure blue water that forms the most important source of the Marañon. It is farther from the sea than any other water that joins the Amazon, and according to common usage among geographers the little stream among the snows of San Lorenzo is entitled to the distinction of being the ultimate source of the Amazon."

the simple but expressive name, *Mar Dulce*—Freshwater Sea. In his capitulation with Vicente Yañes Pinzon in 1501, King Ferdinand gave the newly-discovered river the epithet of Santa Maria de la Mar Dulce. For a while the great water-course was called the Orellana, in honor of the daring lieutenant of Gonzalo Pizarro, who first descended it from the Andes to the ocean. Orellana himself called it Rio de la Trinidad, and until the end of the seventeenth century the part, now known as the Marañon, was regarded as an affluent of the Napo, which originally bore the name of Rio Grande de Santa Ana. Nearly a century after Orellana's exploit, two Franciscan monks, Fray Domingo de Brieva and Fray Andres de Toledo, starting from Quito, followed in the wake of the intrepid conquistador, and, in consequence of this, the Portuguese for some years subsequently called the river Rio San Francisco de Quito.¹

I shall not weary the reader about the origin of the name Marañon, which has been a matter of controversy for nearly four centuries. Whether it be derived from a navigator called Marañon who, according to Zarate, was the first to explore the river, or from a tree which abounds on its banks and is known in Cuba as marañon—*Anacardium occidentale*—or whether, as Rodriguez will have it, the name was given by soldiers who deserted the band of the traitor, Lope de Aguirre,² cannot now be determined.

Far more important than the attempt to get some clew

¹ Fray Laureano de la Cruz evidently thought this the most proper name for the river which he and his brothers in religion had explored, for in his *Nuevo Descubrimiento del Rio de Marañon llamado de las Amazonas*, p. 62, Madrid, 1890, he does not hesitate to declare, "Y ya de aqui adelante no le hemos de nombrar de otra manera, pues tan justamente, le conviene el nombre de Rio San Francisco."

² "Los soldados, que se le apartaron, padecieron tales desdichas, confusiones y trabajos, assi al baxar en su compania como al subir bolviendose azia el Peru, que á vista de ellos, y de los enredos, y marañas que andando por aquel rio, y sus bueltas, le llamaron Rio de Marañas, y por significarlas grandes, passó á llamarse, Marañon." *El Marañon y Amazonas*, p. 19, Madrid, 1684.

to the origin of this mysterious name would be a concerted effort on the part of the geographers of the world to eliminate the confusion that has so long prevailed about the appellation of the greatest of rivers, and agree on one name—Marañon or Amazon—by which it would hereafter be known in all languages from its source to its mouth. To avoid ambiguity, I shall, in what follows, call it by what is now its most common and certainly its most romantic name—the Amazon.

My emotion on first contemplating the immense expanse of the Amazon, after we had left its great affluent, the Huallaga, was enhanced by the books I had been reading for some days previously. Among these was the rather rare work of Rodriguez, just mentioned, which I had been fortunate enough to find, some weeks before, in the library of the recently-deceased bishop of Chachapoyas. Nothing could have been more grateful to me than this unexpected find at this particular time, for I had tried in vain to secure a copy of this eagerly-desired work in Lima, Cuzco, Arequipa and elsewhere. Then, too, I had been reading about the noble achievements of the conquistadores of the cross in the valleys of the Huallaga and the Amazon, and of that New Paraguay which had been established in this region with its first headquarters at San Borja, near the Pongo de Manseriche.

Wherever I went I was reminded of heroic deeds by soldier and missionary, and felt that I was in very truth in a region of romance and enchantment. Few parts, indeed, of South America have been the theater of more notable achievements in many spheres of endeavor, than the region which centers at the confluence of the Huallaga and the Amazon. There are few whose story is more stirring or thrilling, or more replete with moving incidents of exploration and conquest; few that have witnessed such a succession of striking characters move across the stage of its fascinating drama.

That chivalrous, but ill-starred conquistador, Pedro de

Orsua, sailed down the waters of the Huallaga after his eventful march across the Andes from Trujillo, on his famous expedition in search of Omagua and El Dorado. It was near this spot that his treacherous lieutenant, Lope de Aguirre, began that conspiracy which ultimately compassed the death of his chief. There is a monument to the memory of this blood-thirsty villain near Chasuta, a village on the Huallaga, above Yurimaguas, in the shape of a lofty cliff which dominates the rapids of the river at this point. It is known as *El Salto de Aguirre*—The Leap of Aguirre.

Further down the Amazon, in the dark recesses of the forest, there was once another monument to this monster of cruelty and perfidy. It was in the form of a little mound of earth, but it has long since disappeared. It covered the mortal remains of the beautiful Ines de Atienza—who was done to death by the traitor Aguirre—the valiant and faithful fiancée of Pedro de Orsua, who insisted on accompanying him on this fateful expedition, and who, as an old chronicler writes, “forsook not her lord in his travels even unto death.”

The atrocity of this bloody deed is commented on by the poet-historian, Juan de Castellanos, as follows:

“The birds mourned on the trees;
 The wild beasts of the forest lamented;
 The waters ceased to murmur;
 The fishes beneath the waters wailed;
 The winds execrated the deed
 When Llamso cut the veins of her white neck.
 Wretch! wert thou born of woman?
 No! what beast could have such a wicked son?
 How was it that thou didst not die
 In imagining a treason so enormous?
 Her two women, 'midst lamentation and grief,
 Gathered flowers to cover her grave,
 And cut her epitaph in the bark of a tree—
 ‘These flowers cover one whose faithfulness

And beauty were unequalled,
Whom cruel men slew without a cause.' ''¹

In 1538 the upper Amazon was explored by Alonzo de Mercadillo as far as the Pongo de Manseriche. M. Jiménez de la Espada says he descended the river to the mouth of the Rio Negro, while about the same time the territory between the Amazon and the Huallaga was the witness of the hardships and the exploits of Alonzo de Alvarado, one of the most generous and humane of the conquistadores. He, if not Mercadillo, was probably the discoverer of the Huallaga, but his greatest title to fame was his benevolent dealings with the Indians. His conduct in this respect was certainly in marked contrast with that of some of the other conquistadores. On his way from Trujillo to Moyobamba, he went unarmed, and almost alone, everywhere winning the hearts of the natives by his extraordinary affability and kindness. If all his countrymen had been of his stamp, the conquest of the New World would have been achieved by love and not at the cost of blood and tears.

But the name that looms largest in this part of South America and the one which has shed undying luster on the Spanish name, is that of Francisco de Orellana, the immortal discoverer and explorer of the river which should still, as it did formerly, bear his name. And yet, paradoxical as it may seem, it is less than two decades since the true story of this memorable expedition was published. For nearly four centuries Orellana, in spite of his marvelous achievements, had been under a cloud. He had been

¹ Castellanos, *Elegías de Varones Ilustres*, Elegia XIV, Canto IV. The full text of the epitaph, according to Castellanos, was

"Conditur his lauris praefulgens forma puellae,
Quam tulit insontem sanguinolenta manus,

"Gloria sylvarum est extinctum cinere corpus,
Ast homini vivens displicuit facies."

According to Padre Simon, Orsua took his betrothed to Moyobamba with the intention of marrying her, and there is no evidence that he did not make her his lawful wife.

denounced as a traitor to his chief, Gonzalo Pizarro, and as one who sacrificed others to his own ambition and desire for glory. Even the chronicler of the expedition was forgotten, and his precious narrative was practically unknown until the closing years of the nineteenth century. It is true that most of it is embodied in *Oviedo's Historia General y Natural de las Indias*, but this monumental work, although written in the early days of the conquest, was not published until 1851. Even Prescott was ignorant of its existence, and he, like other modern writers,¹ was content to follow Zarate and Garcilaso de la Vega, who, receiving their information from the followers of Gonzalo Pizarro, painted Orellana as a deserter and a traitor. Zarate even goes so far as to declare that the one who was the real chronicler of Orellana's expedition was, for some fancied act of insubordination, abandoned in the inhospitable forest bordering the Napo without food or arms, where certain death awaited him from starvation or from savage beasts and hostile natives.²

But who was the mysterious, long-forgotten chronicler of Orellana's wonderful voyage of exploration?

He was Fray Gaspar de Carvajal, a Dominican monk and a countryman of Gonzalo Pizarro, who accompanied his famous brother in religion, Vicente Valverde, to Peru after he was made bishop of Cuzco. He was also the founder of his order in Peru, and, like his noble confrère, Las Casas, a strenuous protector of the Indians.

¹ Among them Clements R. Markham, who, in the work *Expeditions into the Valley of the Amazons*, published for the Hakluyt Society in 1859, eight years after the publication of Oviedo's history, makes no mention of the first account of the Amazon given by Orellana's annalist. He, like his predecessors, relies chiefly on Garcilaso, Herrera and Acuña, and the greater part of his work consists merely of translations from these writers.

² It is passing strange, a third of a century after the true facts were published, to see this story still repeated by a Brazilian author, F. J. de Santa-Anna Nery, in a work that deals with the Amazon *ex professo*. "Il les jette," he writes of Orellana's abandonment of Carvajal and Sanchez de Vargas, "sur le premier rivage venu sans armes, sans provisions, en pleine forêt vierge." *Le Pays des Amazones*, p. 6, Paris, 1885.

When Gonzalo Pizarro left Quito for the Land of Cinnamon, Carvajal, accompanied by Fray Gonzalo de Vera, of the Order of Mercy, went with him as the chaplain of the expedition. And when Pizarro sent his lieutenant down the Napo in search of provisions, these two monks were with those who went with Orellana. It thus happened that Carvajal was one of the intrepid band of fifty-seven who immortalized themselves by what Oviedo justly characterizes as "*una de las mayores cosas que han acontecido á hombres*—one of the greatest things which have happened to men."

But Carvajal was more than the chaplain of the expedition. He was also its chronicler. His narrative did not, however, find an editor until 1894, when Sr. D. José Toribio Medina gave us the charming and scholarly *Descubrimiento del Rio de las Amazonas segun la Relacion hasta ahora inedita de Fr. Gaspar de Carvajal*.¹

The day before my departure from Lima, while rummaging through a second-hand book store, I was fortunate enough to find a copy of this valuable work. I postponed reading it until I got on the steamer at Yurimaguas and was within sight of the Amazon, the mute witness of some

¹ Published in Seville, pp. CCXXXIX, 278. The full title of Carvajal's MS. is *Relacion que escribió Fr. Gaspar de Carvajal, fraile de la Orden de Santo Domingo de Guzman, del nuevo descubrimiento del famoso rio grande que descubrió por ventura el Capitan Francisco de Orellana desde su nacimiento hasta salir á la mar, con cincuenta y siete hombres que trajo consigo y se echó á su aventura por el dicho rio, y por el nombre del capitan que le descubrió se llamó el Rio de Orellana*.

As an evidence of how soon the truth regarding the discovery of the Amazon and the part Padre Carvajal had in it passed into oblivion, it suffices to state that the Dominican Melendez, in his *Historia de la Provincia peruana de San Juan Bautista*, published in 1681, declares that the perjured rebel, Orellana, cast Padre Carvajal ashore, that he might perish there, because he had opposed his treason against Gonzalo Pizarro and had preached against it. If the historian of his own order could be guilty of such an egregious blunder regarding one of its most distinguished members, and that so soon after the great event in question, it is conceivable how succeeding writers should have lapsed into an error that has found acceptance for nearly four centuries.

of the most heroic exploits in the annals of discovery. I was glad I did so, for never did the perusal of any book afford me more exquisite pleasure than did that of the simple narrative of Carvajal's *Descubrimiento*. Reading it on the waters of the great river, while passing under the shadow of forest giants that may have sheltered the daring crew in one of their bivouacs ashore, was like being transported back nearly four centuries, and made a spectator of the memorable events so graphically described by the observant Dominican.

In the light of his vivid descriptions, one could see the resourceful, self-reliant Spaniard building from the green wood of the forest the frail brigantines—the *San Pedro* and the *Victoria*—that were to convey them in their long voyage on an unknown and unexplored river. One could watch them, ignorant of everything except the profession of arms, improvising a rude forge, making nails from chains and the shoes of the horses that had died or been killed for food, and using grass for rigging and their cloaks for sails.

At one time they were on the verge of starvation, and had nothing to eat except their leather belts and shoe-soles cooked with certain herbs. At another their lives were threatened by the impetuosity of the river currents and the frequent whirlpools which they encountered. But their greatest peril, one against which they had continually to be on guard, was that from the countless tribes of savages who inhabited the banks of the river.

According to Carvajal's account, the Indians were then incomparably more numerous than they are at present, for the voyagers sometimes saw as many as twenty pueblos in a single day, and many of these were several leagues in length, and contained thousands of armed warriors. Some of the tribes, it is true, were friendly to the strangers and these supplied them with provisions, but others were hostile and assailed the Spaniards with showers of poisoned arrows which gave to their brigantines the appearance

of porcupines—*que parecian nuestros bergantines puerco espín*.

Finally, however, after untold hardships and dangers; after almost two years of unparalleled adventure and prowess; after sailing through *pielagos de inmensidades*—oceans of immensity—for more than a thousand leagues¹ down an unknown river, without pilot, chart or compass; knowing not whither they were going or where their voyage would terminate, these dauntless sons of Spain, true to the best traditions of *El Cid Campeador*, found their way to the island of Cubagua—the present Margarita—where they were acclaimed by their astonished countrymen as heroes of one of the most stupendous undertakings recorded in history.²

But remarkable and romantic as was the expedition of Orellana, that of Orsua, of which mention has already been made, was scarcely less so. It was in 1559, scarcely twenty years after Orellana started to unravel the mystery of the Amazon, or die in the attempt,³ that the dashing young knight of Navarre was authorized by the Marquis de Cañete, the viceroy of Peru, to lead an expedition in search of Omagua and El Dorado. The account of this expedition, authentic as it is, seems more like one of the cycle of

¹ Carvajal estimates the distance traversed on the river at eighteen hundred leagues. "Se montan la leaguas que hemos andado por este rio desde done salimos hasta la mar mil y ochenta leguas, antes mas que menos!" p. 76.

² This is not the place to discuss the alleged disloyalty of Orellana to his chief, Gonzalo Pizarro. Suffice it to say that with all the documents before him, including the series of articles published by *Jimenez de la Espada* in *La Ilustracion Española y Americana* in 1892 and 1894, entitled *Traicion de un Tuerto*—a strong indictment against Orellana—Don José Toribio Medina, in his masterly introduction to *Padre Carvajal's Relacion*, after a thorough examination of all the facts in the case, does not hesitate, in opposition to all preceding writers on the subject, to make the categorical statement, *Orellana no fue traidor*—Orellana was not a traitor. And the verdict of most, if not all of Medina's readers, will, I think, be that the one-eyed discoverer of the Amazon was not guilty of the charge of which he has so long been accused.

³ Seguir el rio ó morir ó ver lo que en él habia. Carvajal, op. cit., p. 8.

Arthurian romances than a sober narrative of fact. "Never since the civil wars in Peru," writes an early chronicler, referring to Orsua's expedition, "have such wonderful things happened, as in this affair of the river Amazon."

What, however, was romance at the setting out of the expedition, became, with the death of Orsua at the hands of the tyrant Lope de Aguirre, a series of tragedies without parallel in the annals of the conquest. "The career of Aguirre," Markham well observes, "is certainly the most marvelous and extraordinary in the history of South American discovery, during that age of wonders [the sixteenth century], and in the expedition, as it was conducted after Pedro de Orsua's tragic death, all that is wildest, most romantic, most desperate, most appalling in the annals of Spanish enterprise seems to culminate in one wild orgy of madness and blood."

It is beside my purpose to detain the reader by a recital of the events of this extraordinary expedition, which was terminated by the sanguinary death "of the mad demon, Lope de Aguirre." Those who are interested in the subject will find a full account of it in the *Elegias de Ilustres Varones de Indias*, by Juan de Castellanos; in the *Noticias Historiales* of Padre Simon, and, above all, in the recently published narrative from which these two writers derived their information, the *Relacion de Todo lo que Sucedió en la Jornada de Omagua y Dorado*, written by the Bachiller Francisco Vazquez, who was a member of the expedition.¹

I cannot, however, pass over one feature of Aguirre's expedition that has always claimed the interest of geographers, and which is still a matter of controversy. How did

¹ This precious document remained in MS. until 1881, when it was published in Madrid by the Marquis de la Fuensanta del Valle. The English reader may refer with profit to the *Expedition of Orsua and the Crimes of Aguirre*, by Robert Southey, Philadelphia, 1851, and the *Expedition of Pedro de Orsua and Lope de Aguirre in Search of El Dorado and Omagua*, translated from Padre Simon by W. Bollaert, for the Hakluyt Society, London, 1861.

the traitor and his *Marañones*—the name given his followers—reach the Atlantic? Was it by way of the Amazon or of the Orinoco?

The distinguished savant, La Condamine, who took so conspicuous a part in measuring a part of the earth's meridian on the Equatorial plateau, and who voyaged down the Amazon in 1743, when he made the first map of the river based on accurate observations, leaves the matter in doubt. Southey and Humboldt are of opinion that the ocean was reached by way of the Amazon, while Acuña inclines to the belief that it was by the Rio Felipe—Oyapoc—or possibly by the Essequibo.

Padre Simon and Benito Acosta, the pilot of Captain Pedro Texeira, contend that the voyagers entered the Atlantic by the Orinoco. This is already shown in the map of Sanson d' Abbeville, published in 1656, from information furnished by the Portuguese pilot.¹ If the latter view be correct, Aguirre and his companions were the first white men to discover that wonderful river—the Cassiquiare—which connects the Amazon and the Orinoco, and which makes the hydrographic system formed by these two rivers the most remarkable in existence. Such an achievement, if proved to have been a reality, would immediately take rank with Orellana's astonishing voyage down the Amazon.

To one who is familiar with the courses of the Orinoco and the Amazon, and who reads carefully the accounts that have been written about Aguirre's expedition, especially the very circumstantial *Relacion* of Vazquez, it seems almost certain that the expedition picked its way through the tortuous Cassiquiare, and finally attained the Atlantic after threading the mazes of the Orinoco delta.

¹ Acuña, contrary to the indication in the map which accompanies *The Expedition of Pedro de Orsua and Lope de Aguirre in Search of El Dorado and Omagua*, published by the Hakluyt Society, declares categorically that in no way—*de ninguna manera*—did Aguirre enter the ocean at the mouth of the Orinoco. *Nuevo Descubrimiento del Gran Rio de las Amazonas*, Num. IXV.

If this fact should ever be substantiated, the conclusion would at once follow that Aguirre passed through the Cassiquiare nearly two centuries before it was traversed by the Portuguese in 1743, or by the Spanish Commission which, in 1756, was delegated to settle the boundary line between Brazil and Venezuela.¹

While the expeditions of Orellana and Aguirre were, indeed, remarkable and deserving of all the encomiums that historians have bestowed upon them, they were, in a way, both eclipsed by the third voyage that was made down the Amazon. This was in 1636, and is known in the annals of discovery as *El Viaje de los Legos Franciscanos*—The Voyage of the Franciscan Lay-brothers. Marcos Jiménez de la Espada truly characterizes it as “*La aventura geografica mas temeraria que hombres han arrastrado en las aguas del Amazonas*”—“The most daring geographical enterprise which men have ever adventured on the waters of the Amazon.”²

The expeditions of Orellana and Aguirre were undertaken only after long and careful preparation, whereas the two Franciscans, Fray Domingo de Brieva and Fray Andres de Toledo, started on their extraordinary voyage on the spur of the moment, and without supplies of any kind. Accompanied by only six Spanish soldiers and two Indians, they entered a dugout and began the long and perilous voyage from the eastern confines of Quito to the ocean. Three months later they appeared, as if by enchantment, before the town of Curupá on the lower Amazon, and shortly afterwards they were telling the story of their amazing adventure to the astonished inhabitants of Pará. That they should have made this long voyage of more than twelve hundred leagues in a small canoe, with only such provisions as they could find in the forest, or procure from

¹ Compare, however, footnote on pages 110 and 111 of *Expedition of Pedro de Orsua and Lope de Aguirre*, above mentioned.

² *Viaje del Capitan Pedro Texeira Aguas arriba del Rio de las Amazonas*, p. 30, Madrid, 1889.

the Indians along the river, was indeed astounding, but what seemed almost incredible to their hearers was their statement that they never had any mishap of any kind, and that, notwithstanding the immense number of savages that inhabited the banks of the Amazon, they slept every night on shore as securely as if they had been at home in their own convents.¹

Although nothing could have been less ostentatious than this expedition of the two friars, it was destined to be far more prolific in results than either of the two that preceded it.

Orellana, it is true, had visions of a great future for the Amazonian province of New Andalusia, of which he was made governor as a reward for his services to the Spanish crown; but his dreams were never realized, for he had scarcely returned to the mouth of the Amazon when he sickened and died. His companions buried him under one of the age-old trees of the ever-green forest which is bathed by the waters of the majestic river which he had discovered, and there, after the labors and hardships of a strenuous life, he found repose in the midst of that exuberant nature which is a fitting monument to his undying memory.

Aguirre, after his memorable expedition across the continent, was deserted by all his band except one, and met death at the hands of two of his Marañones near Barquicimeto in Venezuela, not, however, until after he had crowned his countless atrocities by imbruing his hands in the blood of his own daughter, who had accompanied him from Peru with a Spanish woman named Torralva.² Before thrusting the fatal poniard into her heart he said to her, "Commend thyself to God, my daughter, for I am about to kill

¹ "Hicieron su viaje durmiendo todas las noches en tierra tan seguros como si estuvieran en sus conventos sin sucederles cosa adversa, sino todas prosperas, todas felices." Fray Diego de Cordoba y Salinas, *Cronica de la religiosissima provincia de los doce Apostolos del Peru*, Cap. 32-34, Lima, 1651.

² This Torralva, from Molina de Aragon in Castille, was, so far as known, the first white woman to cross the South American continent by way of the Amazon. Aguirre's daughter was a mestiza.

thee, that thou mayest not be pointed at with scorn, nor be in the power of anyone who may call thee the daughter of a traitor.”¹ Aguirre’s “memory survives until the present time in Venezuela as that of an evil spirit, and when at night the jack-o’-lanterns dance over the marshy plains, the solitary wanderer crosses himself—whispers, ‘The soul of the Tyrant Aguirre.’ ”

Eighty years elapsed after the voyage of Aguirre, and a full century after that of Orellana, and during this long interval nothing further was accomplished in the valley of the Amazon in the way of exploration or conquest. Scarcely, however, had the two monks arrived at Pará from the region of the Napo when preparations were immediately begun for an expedition up the river on an imposing scale, by the then governor of the lower Amazon. A fleet of forty large canoes, manned by twelve hundred Indian oarsmen, and carrying seventy Portuguese and four of the six Spaniards, who had descended the river with the two friars, departed under the command of Captain Pedro Texeira, who took with him a Franciscan monk, Fray Augustin de las Llagas, as his chaplain, and the lay brother, Fray Domingo Brieva, who was to serve as the guide—*Guia y norte de la armada*—up the river which he had so recently descended.

The expedition left Curupá the 17th of October, 1638, and, after nearly eight months of navigation, which was always prosperous, and attended by no untoward event whatever, it arrived at the town of Avila, but a few days’ journey from Quito.²

Great was the surprise and consternation of the royal audience of Quito and of the viceroy of Lima, when they learned of the unexpected arrival at the foot of the Andes from the coast of Brazil, of the Portuguese armada. It is

¹ Fray Pedro Simon, *Noticias Historiales de las conquistas de Tierra Firme, en las Indias Occidentales*, Sexta Noticia, Cap. II, Bogotá, 1882.

² “Al cabo de ocho meses de navegacion, que tuvieron con feliz, y prospera fortuna, sin sucederles el menor fracaso, ó desastre, llegaron al deseado puerto de Payamino,” Cordoba y Salinas, *ut. sup.*, p. 203.

true that Portugal was then under the dominion of Spain, and had been for more than half a century, but there were even then unmistakable indications of that rebellion which very soon afterwards resulted in Portuguese independence. It was bad enough that Texeira's voyage should open up a new road to Peru for English and Dutch pirates and buccaneers, but it was still worse for Spain to have her hated rival, Portugal, in control of the great waterway of the Amazon.

The worst fears of audience and viceroy were soon justified, for shortly after Texeira's return to Pará, which was effected without delay, Portugal threw off the Spanish yoke, and the Portuguese began at once to push the frontiers of Brazil towards the Andes, and, in so doing, encountered little more resistance than what was offered by the Spanish missionaries of the upper Amazon. The expedition of the two Franciscans from the Napo to Pará was thus, although indirectly, productive of results incomparably more momentous than those following the voyages of Orellana and Aguirre, for it at once paved the way for that vast extension of territory on the part of Portugal which eventually made Brazil the largest commonwealth in South America.

I have said nothing about the return of Texeira and his men from Quito to Pará, for that has been fully described by many chroniclers who have written on the subject, notably Fray Laureano de la Cruz, and the Jesuit Padre Acuña, whose work, *Nuevo Descubrimiento del Gran Rio de las Amazonas*, is still supposed by many to be the earliest account we possess of the Amazon and the region it waters. How ill-founded is such an opinion is shown by the foregoing pages. It is due, therefore, to the memory of the brave and neglected Franciscan lay-brother, Domingo Brieva, who made his first descent of the Amazon in a dug-out, and who acted as Texeira's guide from Pará to Quito and return—thus traversing the great river from end to end no fewer than three several times—to recall the nature and the importance of his services to the cause of geo-

graphical exploration and discovery. Few contributed more than this humble monk to opening up the valley of the Amazon to the explorer, the colonist and the missionary, and few have been so completely ignored.

Acuña passes over Fray Domingo's achievements by what Jiménez de la Espada justly designates *silencio muy raro*, but a silence that the curious reader will find explained by the illustrious Americanist in his masterly introduction to the *Viaje del Capitan Texeira*, and in his valuable notes on *Noticias Autenticas del Famoso Rio Amazon*, referred to in the preceding chapter. He will also find much light on the subject in the simple and unaffected narrative, already mentioned, of Laureano de la Cruz, whose work, notwithstanding its importance, was unknown to bibliographers until 1890 and remained unpublished until 1900.¹

The name Amazon, or the Amazons, by which the river discovered by Orellana is generally known, is, as the reader is aware, derived from a tribe of female warriors, who, according to the early chroniclers, inhabited the region east of the Rio Negro. Orellana is usually credited with inventing the story of their existence, but it seems with little foundation.² Carvajal, it is true, tells us that the expedition found Indian women aiding the men in their attacks on the Spaniards, but this is quite different from affirming his belief that a tribe of women, like the Amazons described by the old Greek writers, actually existed in the valley of the

¹ Speaking of this *silencio muy raro*, Jiménez de la Espada observes: "Acaso dependa de involuntario olvido, pero como no es este el unico que el P. Acuña padece en los asuntos personales de fray Domingo y los de la orden franciscana, relativos al viaje primero, ó de la subida, del capitan Texeira y aun al la bajada, que hicieron juntos el capitan y Padre, bueno será que sigamos oyendo á nuestro fray Laureano, para que nos entere de algunos curiosos lances oçcurridos con motivo de las mencionadas expediciones que vienen muy al proposito de estos *Preliminares*." *Viaje del Capitan Texeira*, p. 32.

² Castellanos, for instance, writes:—

"De aqui, sacó despues sus invenciones
El capitan Francisco de Orellana
Para llamalle rio de Amazonas."

great river of which he has left us the first written account. As a matter of fact, the discreet Dominican confines himself to giving the answers which a certain Indian, who was interrogated by Orellana, gave regarding the manner of life of these women warriors, and does not commit himself to an expression of his own opinion about the matter.

Laureano de la Cruz, who heard similar stories from the Indians about a tribe of female warriors is equally non-committal. He said he saw nothing and could secure no information that would justify the reported existence of such women.

It was reserved for Padre Acuña to give the story of the Amazons the vogue it has so long enjoyed. He devotes two whole chapters to the subject, and concludes that "The foundations for asserting the existence of a province of the Amazons in this river are so numerous and so strong that it would be invalidating human testimony not to give them credit. It is inconceivable," he says, "that a lie about the matter should obtain in so many languages and nations, and have at the same time all the semblance of truth."

How far Acuña is deserving of credence in such matters may be inferred by what he says regarding other marvels existing along the Amazon. Among these—the coinage of a credulous fancy—are a nation of dwarfs who are no larger than very young children—*criaturas muy tiernas*—a nation of giants sixteen palms high, and a nation whose inhabitants have their feet reversed so that one who was unaware of this fact, and wished to follow in the footsteps of these strange people, would go in the opposite direction taken by them. More than this, the valley of the Amazon, he assures us, abounds in treasures of gold and silver that exceed those of Peru and Potosi. In it is found a lake of gold and a volcano filled with precious stones, not to speak of other teratological extravagances which were so startling that his distinguished contemporary and brother in religion, Padre Ruiz de Montoya, felt constrained to pronounce them as beyond belief.

This chapter of early Amazon adventure and romance would be incomplete without some reference to the extraordinary experience of Madame Godin des Odonais who, in 1769, left Riobamba in the province of Quito, with the intention of joining her husband in Cayenne, at the opposite side of the continent. So marvelous indeed was it, that, were it not thoroughly attested, it would seem incredible. No woman, it is safe to say, ever endured greater hardships, braved greater dangers and lived to tell the story of it all.

When she started on her journey her escort consisted of her two brothers, a physician, a negro servant, a nephew nine or ten years old, three young women domestics and thirty Indians to act as porters of herself and baggage. These Indians, however, had scarcely arrived at Canelos, a small village east of the Andes, when they deserted her. Canelos itself, they found, had been so ravaged by small-pox that only two of its inhabitants—both Indians—were left. To make matters worse, there was not a single canoe in the place and the party had to remain until the two Indians could make one.

The canoe finished, Madame Godin payed the Indians in advance to take her down the Bobonaza to Andoas, a mission station about a hundred and fifty miles down the river. But two days after leaving Canelos these Indians also abandoned her, leaving her without a guide. The unfortunate party then proceeded on their journey without assistance until the following day, when they found an Indian just recovering from an illness, who consented to accompany them and act as steersman. But the third day an accident occurred by which the poor fellow was drowned.

When they were yet five or six days distant from Andoas, their canoe foundered and they had to leave it and build a hut on the banks of the river, and send to Andoas for another boat and Indians to man it. After waiting twenty-five days for the expected assistance, and despairing of receiving it, they constructed a raft on which they embarked with their provisions and effects. But the raft soon struck

against a submerged tree; all the freight was lost, and the passengers barely escaped with their lives.

Placed in a more trying situation than ever, they resolved to follow afoot the sinuous banks of the river through the thick tangled mass of shrubs and lianas. But their progress was so slow that they concluded to shorten their journey by taking a straight course through the woods, and, in so doing, they discovered after some days of aimless wandering that they were hopelessly lost.

Wearied by such long marches in an almost impenetrable forest, their feet lacerated by thorns and brambles, their provisions exhausted, and dying of thirst, their only sustenance was certain wild fruits and palm leaves. At last, overcome by hunger and fatigue, and too weak to stand, they fell to the ground and awaited the approach of death.

In three or four days they expired, one after another, with the exception of Madame Godin. She, stupefied, delirious and tormented with a choking thirst, remained for two days prostrate beside the corpses of her two brothers and those of her other companions. At length, however, she recovered sufficient strength and courage to resume her wanderings. She was then without shoes and her clothes were reduced to tatters. Cutting the soles from the shoes of her dead brothers, she used them as sandals.

On the second day of her random wanderings she found water, and the following days some wild fruits and fresh eggs, apparently of some kind of partridge. She was scarcely able to swallow, so constricted was her throat by lack of food, but her skeleton frame managed to subsist on such food as chance placed within her reach. Nine days after leaving the spot where her brothers and domestics had died, she reached the Bobonaza, where by the rarest of good fortune she encountered two Indians who were in the act of launching a canoe. She begged them to take her to Andoas, which they readily agreed to do. Thence she made her way down the Pastasa to the Amazon, and then to Laguna on the Huallaga. There she was kindly received by

the superior of the missions, and, after her health and strength were sufficiently restored, she continued her voyage down the Amazon, and eventually succeeded in rejoining her husband in Cayenne.

But the recollection of the long and terrible scenes of which she had been a witness, the horror of the solitude and of the nights in the wilderness, the dread which was intensified every moment, so deeply affected her that her hair became white.

Her husband, who has left us in a letter to his friend, M. de la Condamine,¹ a graphic account of the awful experience of his wife, well remarks that it is too improbable for a romance, for it does not seem possible that a lone, delicately-nurtured woman, accustomed to all the comforts of life, could survive privations and hardships which caused the death of her brothers and servants, and left her to continue the struggle unaided and alone. It would be indeed difficult, if not impossible, to find a parallel to such endurance on the part of a woman, and, for this reason, Madame Godin's name will ever be indissolubly linked with one of the most remarkable adventures, and one of the most thrilling of the many romances that have made the Amazon so famous.

Nearly a century and a half have elapsed since Madame Godin's memorable journey, but the forests and rivers she traversed are still as wild and as picturesque as they were in her day. Indeed, they have witnessed but little change since Orellana's voyage nearly four centuries ago. If we may credit the statements of Carvajal and Laureano de la Cruz, the chief difference between the Amazon valley, as they saw it, and as the traveler finds it to-day, lies in the incomparably less number of aborigines that now people the banks of the great river, as compared with the countless thousands that greeted the Spaniards and the

¹ Published at the end *Relation Abrégée d'un Voyage Fait dans l'Intérieur de l'Amérique Méridionale*, par M. de la Condamine, à Maestricht, 1778.

Portuguese under Orellana and Texeira. War and disease and soulless Dutch and Portuguese slavers have reduced the number of Indians to a small fraction of what it was when this region was first visited by Europeans. One still sees a native village here and there, and an occasional hut surrounded by maize, plantain and manihot, but the dense population that so surprised the early chroniclers, is a thing of the past. Many tribes have disappeared entirely, while others have retired far into the recesses of the forest, where a white man never penetrates.

The islands, too, that so thickly dot the river for a thousand leagues, and which were once the favorite haunts of the liberty-loving red men, are now almost entirely depopulated. In the upper Amazon alone in the time of Padre Fritz, there were more than fifty islands inhabited by four different Indian tribes, among whom were no fewer than thirty-eight reductions. Nearly all of these are now abandoned, and, instead of sixty thousand Christian Indians who, two centuries ago flourished under the benign rule of the missionaries of San Borja and Laguna, we find to-day only a small fraction of this number, most of whom are neglected and practically forgotten by those to whom these poor children of the forest have a right to look for the same assistance and instruction that were enjoyed by their forefathers.

And although this part of South America has, for more than a century, been the favorite resort of explorers and naturalists and ethnologists from Europe and the United States, it is still but imperfectly known. Notwithstanding the famous researches and explorations of the missionaries mentioned in the preceding chapter and of those of La Condamine, Spix and Martius, Poeppig, D'Orbigny, Castelnau, Herndon, Gibbon, Bates, Spruce, Wallace, Agassiz, Hartt, Chandless, Penna, Coutinho, and scores of others who have immortalized themselves by their scientific achievements in the Amazon basin, this greatest of the world's forests still holds countless secrets for those who

are willing to venture into its unexplored depths. So far, indeed, is our knowledge of the immense *selva* of the Amazon from being complete, that we can, to borrow an expression of the conquistador, Francisco Preciado, who declared that there was in the New World country enough to conquer for a thousand years, confidently assert that there is still in this exhaustless territory enough virgin material to occupy the conquistadores of science for ten centuries to come.

CHAPTER XXIV

SAILING UNDER THE LINE

The first place of importance at which we arrived after leaving Yurimaguas was Iquitos, the capital of the department of Loreto. It is pleasantly located on the left bank of the Amazon about six hundred miles below Yurimaguas, and counts from twelve to fifteen thousand inhabitants, besides a large floating population. The city, which ranks as the most important port in Peru after Callao, is quite cosmopolitan in character, for it has representatives from almost all parts of the world, including, of course, the ubiquitous Chinese.

Here I left our trim little steamer, the *Miraflores*, in which I had spent two delightful days, and became the guest of the prefect of Iquitos, who at once planned for me a series of excursions up the Ucayali, the Napo and the Putumayo. I regretted then, and have often regretted since, that lack of time made it impossible for me to avail myself of his courteous offers, for nothing would have given me greater pleasure than to continue my wanderings in tropical wilds, especially under such favorable auspices.

Iquitos, which is a place of recent foundation, is to-day something like Leadville, Colorado, was three decades ago. The difference is that in the American town in its palmy days everybody talked silver, whereas in Iquitos the usual topic of conversation is rubber and the prevailing market price for this precious commodity.

"We care nothing for politics or religion here," said a prominent business man to me; "the only thing we have any interest in is the English sovereign."

For this everything is sacrificed, health and even life.

And to secure the much coveted latex of the *Heva Brasiliensis*, men penetrate the dark and dismal swamps bordering the Amazon, and the fever-infected districts of its tributaries, no matter where, in which rubber trees are known to abound. This tree, of whatever species, is indeed the tree of life and death in this part of the world, for, while it furnishes the means of subsistence to countless thousands in all parts of the globe, it is likewise the cause of premature death for growing multitudes in every part of the Amazonian basin.

How vast is the wealth hidden in the forests bordering the Amazon and its affluents, may be gauged from the fact that the rubber annually exported from this part of the continent fetches in the markets of Europe and the United States the enormous sum of \$50,000,000. And so abundant is the store of rubber in regions that have not yet been visited that this amount could, if necessary, be duplicated.

No wonder that agriculture and grazing and other industries are neglected in this part of South America; that every one is seeking his fortune in the rubber forest instead of looking for it in other spheres of activity, where there would be less danger to health and life, and where remuneration for energy expended would be fully as great, if not greater.

All along the river front in Iquitos are large warehouses filled with crude rubber collected from all the forests along the Huallaga, the Ucayali, the Napo, the Javari, the Tigre and their countless tributaries. At times the river about the wharf is crowded with boats of all kinds—river steamers, launches, schooners, brigs, large and small—all laden with rubber just brought in from the forests, and often from points many hundred miles distant. There are also dugouts of every size, manned by Indians of various tribes, some of them fantastically tattooed and garbed in the primitive costumes used in the wilderness. It is an interesting and picturesque scene and one characteristic of the Amazon.

In the center of these motley craft are several ocean steamers discharging merchandise from the United States

and Europe, or taking aboard for foreign markets their regular consignments of the great staple which is the chief mainspring of the commercial activity of the entire Amazonian basin from Iquitos to Pará. All is bustle and confusion—English, Germans, Spaniards, Chinese coolies, Morocco Jews, Indians of many tribes, all shouting and gesticulating at the same time and reproducing in divers tongues all the confusion of Babel.

On leaving Iquitos, where I spent several delightful days, I felt that I was bidding adieu to Peru and its charming people, among whom I had spent some of the happiest months of my life. It is true, I was to be in Peruvian territory until I should reach Leticia, the military post near the Brazilian frontier, but I would have little occasion to see much more of its inhabitants.

As I was going to the steamer—a freighter bound for New York—the dear old melody of *Home Sweet Home* was wafted to my ears. It came from an Edison phonograph on the opposite side of the street. Never was music more grateful and never did it evoke fonder memories than at that moment, when my year's wanderings through mountain and forest were nearing the end. It is true, I was still more than five thousand miles from home, but I could now reach it by simply remaining on the steamer I was about to board. But even this was unnecessary. The dulcet notes of the old familiar air, as if by magic, annihilated space and time and I was in fancy amid the loved ones, from whom I had been so long separated by broad seas and untraversed wilds.

The prefect and a number of friends came to the steamer to wish me *feliz viaje*, but the last to say *Adios*—and this they did with tears in their eyes—were my good, devoted, affectionate escort who had accompanied me from Moyobamba and who had contributed so much to the pleasure of one of the most interesting and enjoyable parts of my long journey in South America. I never recall my delightful experiences in the montaña, or along the Paranapura and the

Huallaga, without seeing before me the beaming faces of my loyal, whole-souled companions who, during all the time we were together, had no thought but that of my comfort and pleasure.

But in justice to all, I must here state that these members of my escort were not the only ones to whom I owe undying gratitude for their loyalty and self-sacrificing spirit. All those who had accompanied me on the long journey across the Andes were of the same type. Whether Spaniards, mestizos or Indians, they were ever ready, day and night, to render me any service in their power, and this they always did with such promptness and unfeigned cheerfulness that I was often struck with astonishment. "*Es nuestro deber*"—"it is our duty"—they said, when I expostulated with them for doing more than was necessary, especially when they were fatigued after a long day's journey. I can truly say that I have never met more unselfish, more honest or more faithful people than those devoted, noble young fellows who composed my escort from Trujillo on the Pacific to the capital of Loreto on the Amazon. May heaven's choicest blessings always be theirs!

The first place of importance at which we stopped after leaving Iquitos was Manaos, the capital of Amazonas, the largest state of Brazil. But it is a long distance between the two cities—nearly fourteen hundred miles,¹—and our steamer spent five days in going from one port to the other.

There is little occasion to describe the sights along the Amazon between these two points, for they are essentially the same as what is observed along the Huallaga and the Paranapura. The only difference is that everything is on a grander scale, and the ever-changing vistas are more magnificent. Aside from the tawny Amazon—the visible equator, as it has been aptly called—the eye sees nothing but interminable stretches of verdure, an unbroken virgin forest, which is almost coterminous with the vast basin

¹ According to the navigators of the Amazon, the exact distance is eleven hundred and fifty-one knots.

of the Amazon and the Orinoco. In the western part alone of this immense selva there is a circle of woodland eleven hundred miles in diameter, which is to-day practically what it was in the time of Orellana—an ocean of exuberant vegetation such as exists in no other part of the globe.

In March, when the great river is highest, the Amazon overflows its banks and then becomes an inland sea two thousand miles long and from thirty to forty miles wide. The part of the lowlands thus inundated during the rise of the river constitutes, during the dry season what the Brazilians call *varzeas*—flood-plains—as distinguished from *tierra firme*—the land that is always above the reach of the annual inundation. They resemble the alluvial flats near the mouth of the Mississippi with their network of lakes and bayous. In parts of the upper Amazon valley these swamp-lands are more than a hundred miles in width, and here one can actually contemplate the earth as we fancy it to have been during the Carboniferous Period.

The Amazon has been characterized as “a fresh-water ocean with an archipelago of islands.” This is true not only because of its physical appearance but also by reason of its fauna, especially its cetaceans, among which are several species of porpoises and the odd-looking manatee, to which, on account of its appearance, the Brazilians give the expressive name *peixe-boi*—fish-cow.

Then too, the silent, onward sweep, which is barely visible, of this majestic fresh water sea, is more like the flow of the ocean than that of an inland stream. “It is true,” as Agassiz has remarked, “that in this oceanic river system the tidal action has an annual instead of a daily flow, that its rise and fall obey a larger orb, and is ruled by the sun and not by the moon; but it is, nevertheless, subject to all the conditions of a submerged district and must be treated as such. Indeed, these semiannual changes of level are far more powerful in their influence on the life of the inhabitants than any marine tides. People sail half the year above districts where for the other half they

walk, though hardly dry shod, over the soaked ground; their occupations, their dress, their habits are modified in accordance with the wet and dry seasons.”¹

The varzeas above mentioned, which extend from the foothills of the Andes to the Atlantic, are intersected by countless channels—mere clefts in the dense masses of vine and shrub and tree—which the Indians appropriately name *igarapes*—canoe-paths. It is along these narrow canals, scarcely wider than a dugout, over-arched by graceful, feathery bamboos, glossy heliconias and drooping palm-fronds, that one will find the most superb exhibitions of floral beauty and splendor to be seen in the tropics. Only here and there are the matted, arching boughs penetrated by a stray sunbeam, but this is enough to bring out the glorious sapphire of a fairy-blue butterfly, that flits in front of our canoe, or the emerald and topaz flashes of the beauteous humming birds—kiss-flowers, the natives say—which dart about the palm blossoms or the sweet perfumed orchids, that here possess a delicacy and a fragrance that are quite indescribable.

Occasionally these *igarapes* lead to a grass-covered glade in the midst of which is a beautiful mirror-like lakelet, to which the Indians give the picturesque name of round-water. Here one will find great flocks of snowy white herons, blue bitterns, black divers, roseate spoonbills, countless ducks of various hues, lovely egrets, screaming parrots and macaws, not to speak of various species of smaller birds that contribute their share to the open-air concert.

But to me the most attractive features in the splendid landscape that defiled before us were those “princes of the vegetable world”—the palms. I never wearied contemplating them, so numerous, so diverse, so graceful, so noble. Here they are scattered among the other trees of the forest, there they are grouped alone, thousands of them

¹ *A Journey in Brazil*, p. 256, by Professor and Mrs. Louis Agassiz, Boston, 1868.

in all their beauty and royal magnificence. At one place, near the river's bank, I noted a large clump of Miriti¹ palms, of unusual size and perfection, and in the midst of it a *campo santo*—the last resting place of the inhabitants of a near-by village, over which was wafted the ceaseless requiem of the shore-lapping waves of the majestic, solemn river-sea.

How simple it was, and how appropriate! The palm is the symbol of victory and of a happy resurrection. As a God's-acre, as the Germans devoutly name the final resting place of their dead, this palm grove was absolutely matchless, and, to my mind, the most beautiful burial place in the world. Some one has said that "It was an old Indian taste that nature should do its part towards the adornment of the God's-acre." Here this idea is realized in a superb manner, and in a way calculated to teach a lesson to those who squander fortunes on cold granite and chilly marble.

Villages and human habitations are few between Iquitos and Manaos—far less numerous than they were in the days of Orellana and Texeira. The houses, or rather huts of the natives, are like those in other parts of the fluvial region of the tropics—palm-thatched sheds or cots of bamboo wattle-work. As to their inmates, they can best be described in the words of the Italian traveler, Osculati, who visited this region in the first part of the last century and who declares that all of them, "women, men, children, chickens, monkeys, birds, etc., are huddled together," and that all, except the animals mentioned, "spend the greater part of their time stretched in their hammocks in the most complete immobility."²

Around this primitive habitation is the usual plot of ground for the cultivation of maize, plantains and manioc.

And such maize! I have never seen anything like it ex-

¹ *Mauritia flexosa*, known also as Moriche palm.

² *Esplorazione delle Regioni Equatoriali lungo il Napo ed il Fiume delle Amazzoni*, p. 167, Milano, 1850.

cept in the fertile valleys of the Meta and Orinoco. Here one can raise three crops a year of this valuable food-plant and of the very best quality. Is it any wonder then that the ancient Peruvians worshiped a plant that for little labor furnished them with their chief means of subsistence!

Manioc—*Manihot utilissima*—is even more serviceable to the inhabitants of equatorial regions than maize, for its root supplies the natives at a minimum of labor with meat and drink—meat in the form of flour, called by the Spaniards *pan de tierra caliente*, and drink, in the variety of chicha prepared from the juice which is extracted from the root.

Scarcely less useful to the inhabitants of the tropics than maize and manioc is the plantain, of which there are nearly a hundred varieties. This plant is never absent from even the humblest homestead. It is prized not only on account of the value of its fruit as food but also because it requires but little care. It was on account of the varieties and abundance of plantains and bananas, and the fact that they yielded an inexhaustible supply of wholesome nutriment in return for nominal labor on the part of the consumer, that certain political economists long ago declared that civilization could never reach a high plane in the tropics until these rich fruit-bearing plants were destroyed by law and the people living there were compelled to work for a livelihood.¹ As it is, bounteous nature supplies the inhabitants with all the food they require, without exertion on their part except during a few days of the year. The rest of the time they spend in absolute idleness with no incentive whatever to labor, and happy in the thought that lavish nature will always make ample provision for their wants, which are as few as they are simple.

Many travelers complain of the monotonous character of

¹ "We hear it frequently repeated in Spanish colonies that the inhabitants of the warm region—*tierra caliente*—will never awake from the state of apathy, in which for centuries they have been plunged, till a royal *cedula* shall order the destruction of the banana plantations—*platanales*." Humboldt, *Political Essay*, Book IV, Chap. 9, p. 380, London, 1822.

a journey on the Amazon, but such travelers are not lovers of nature. They declare there is nothing visible except a broad muddy river and an interminable expanse of green. It is true that one does not see along the Amazon the glorious autumn tints of our northern woods—the rich crimsons and dark purples, the soft browns and golden yellows—that rival in splendor the hues of the rainbow. Unknown is the rotation of seasons, their grateful contrasts and the gifts with which each of them is laden. Unknown are the long trance of winter and the bright awakening of Flora's children at the first breath of spring. All this is true, but notwithstanding the "ceaseless round of ever-active life, which weaves the fairest scenery of the tropics into one monotonous whole," there is, nevertheless, in every component part of this marvelous floral and faunal display, a beauty and a variety and an infinitude of exquisite detail that are the exclusive products of the eternal summer of the equator.

"To the student of nature," as Wallace pertinently observes in this connection, "the vegetation of the tropics will ever be of surpassing interest, whether for the variety of forms and structures which it presents, for the boundless energy with which the life of plants is therein manifested, or for the help which it gives us in our search after the laws which have determined the production of such infinitely varied organisms. When, for the first time, the traveler wanders in these primeval forests, he can scarcely fail to experience sensations of awe, akin to those excited by the tractless ocean or the Alpine snowfields. There is a vastness, a solemnity, a gloom, a sense of solitude and of human insignificance, which for a time overwhelm him; and it is only when the novelty of these feelings have passed away that he is able to turn his attention to the separate constituents that combine to produce these emotions, and examine the varied and beautiful forms of life which, in inexhaustible profusion, are spread around him."¹

¹ Op. cit. p. 269.

The meteorological phenomena observable along the Amazon were for me things of never-failing interest. Chief among these was the action of the trade winds on the temperature of the valley. Although our course was almost directly under the equator the thermometer rarely rose above 75° F. One entry in my diary, made near Tabatinga, reads as follows: "Temperature at 7 A. M. 68° F.; at 10 A. M. 67° F. Cool enough for a light overcoat." Another entry made near Obidos, reads, "Very cool all day. Temperature from 68° F. in the morning to 66° F. in the afternoon." Still another observation at six o'clock in the evening on board our steamer in mid-river, gives the remarkably low temperature of 62° F. at Pará, which is sometimes supposed to be a place where one gasps in a fierce, unintermitting, intolerable heat.¹

The maximum heat encountered at the chief towns between Iquitos and Pará is never so high as it often is in New York and Chicago, notwithstanding the difference in latitude of nearly three thousand miles. These facts show that climate does not depend entirely on latitude. They demonstrate, too, the beneficent action of the trade winds in reducing the temperature, especially in those parts of the Amazon valley where the air currents are unimpeded by forests and mountains.

Mention must also be made of the *turbonadas*—sudden rainstorms—which are so frequent on the Amazon. While we are contemplating the placid, mirror-like surface of the broad river, whose sole function seems to be to reflect the clear blue sky and the vine-draped forest giants, that stand like sentinels along the ever-green banks, a dark cloud appears in the east.² It moves towards us with fearful rapidity, and almost before we are aware of it, the storm breaks upon us with a flash of lightning and a roll

¹ The absolute maximum temperature of Pará—which is but little more than one degree from the equator—is 91° F., considerably lower than it frequently is in the northern parts of the United States.

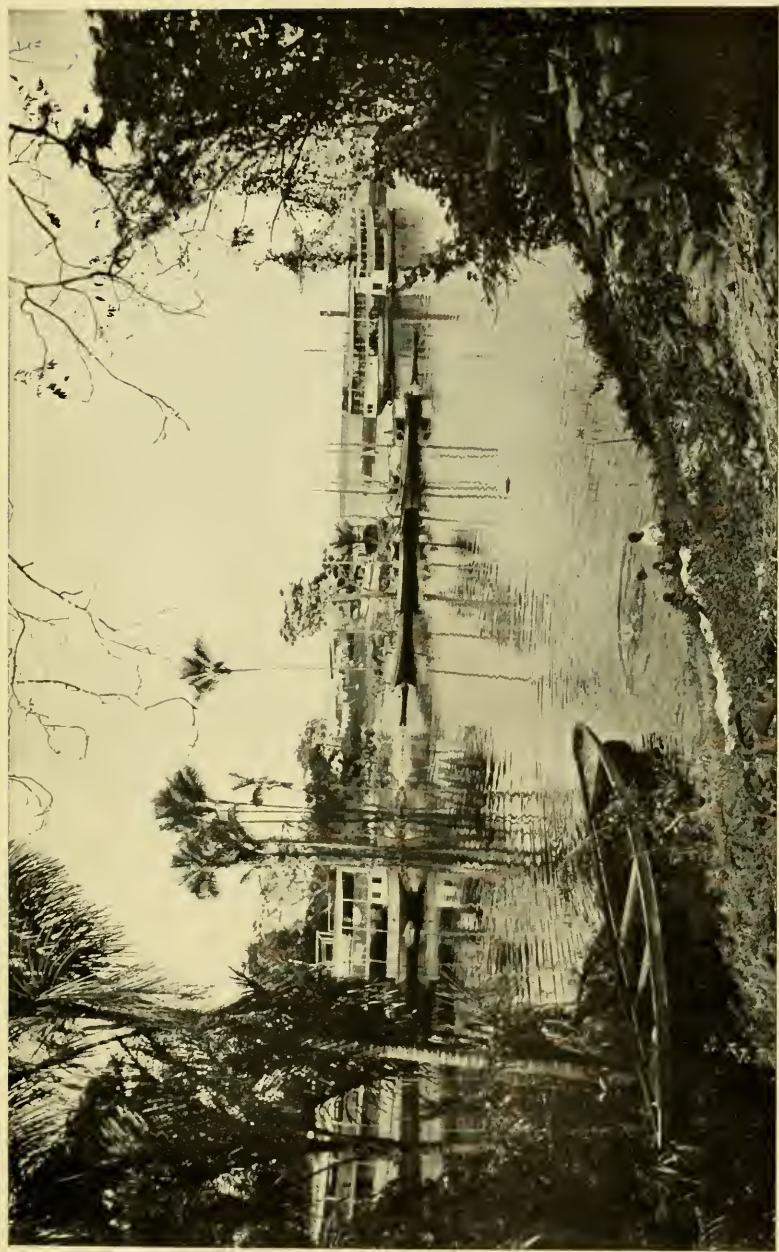
² Because these *turbonadas* always come from the east, the Indians declare that "The path of the sun is the path of the storm."

of thunder. The sudden squall lashes the clay-colored waters of the river into a dangerous whirl of wave and foam that compels all smaller craft to seek safety in some protecting igarape. Such tempests are rarely of long duration, but the precipitation is sometimes extraordinary. Castlenau witnessed a downpour between Nauta and Pebas in which the rainfall amounted to eighty-one centimeters in a few hours—as much as the total precipitation in Venice during the entire year, and more than the mean annual rainfall of either Paris or London.

Although the fall of the Amazon for the last two thousand miles of its course is but little more than an inch to the mile, its erosive power is enormous. This is shown by the immense masses of earth which are constantly being torn from the banks by the resistless current, the formation of new channels in every direction, the destruction, one after another, of the countless islands that dot the river from the Pongo de Manseriche to the ocean. This resistless movement, which carries everything before it, is due to the immense volume of water which is continually poured into the main channel by the innumerable tributaries that enter the great river on both sides for a thousand leagues, and which must have an outlet. At times the flood is covered with floating tree-trunks and tangled masses of vegetation that resemble floating islands, or the *jangada* of Jules Verne. These are frequently arrested by sand banks, or grounded in shallows, and thus become the nucleus of an island, which rapidly grows by accretion until it eventually becomes the fit habitat of animals and men.

Five days after leaving Iquitos we dropped anchor before the city of Manaos, the capital of Amazonas, the largest state in the great republic of Brazil.¹ It is situated on the left bank of the Rio Negro, about six miles from the Amazon, or the Solimoes, as it is here called by the Portuguese. The confluence of the two rivers is re-

¹ Its area is more than four times that of Texas and more than twenty-two times that of New York.



A RIVER SCENE ON THE RIO NEGRO AT MANAOS.

markable on account of the inky blackness of the waters of the Rio Negro—Black River—which remain separated for a distance of several miles from the tan-colored flood of the Amazon, giving the great river immediately below the city the appearance of having a double current, each of a different color.

So dark are the waters of the Rio Negro that they have extorted the admiration of voyagers from the earliest days of exploration. Orellana's chronicler, Padre Carvajal, describing the river, says, "The water was as black as ink—*era negra como tinta*—and for this reason we gave it the name Rio Negro"—a name it has since retained.

The color of this river, it may be added, like that of many other Rio Negros in South America, is due to the decaying vegetation of its headwaters and that of the forest swamps which border its numerous and sluggish affluents.

Manaos is an enterprising city of between forty and fifty thousand inhabitants, and, like Iquitos, is an important rubber emporium. It is quite an attractive place, and contains several imposing public and private buildings. But the most remarkable and most conspicuous edifice is the theater on the Avenida Ribeiro. It is a large and ornate structure, with a beautifully-painted and decorated interior, and will compare favorably with the most notable play-houses in the United States. One cannot help wondering why such a magnificent building was erected in this place—in a territory so sparsely populated, and where apparently there is but little demand for it. To the casual visitor it seems like a monument of reckless extravagance.

As I was wandering through the warehouse where rubber was prepared for shipment, I was surprised to learn that the lumber used for the boxes in which it is packed is all imported. Much of it comes from the United States. Only a few days before my arrival, a single vessel from New York brought a million feet of pine lumber from Maine, all of which was intended for boxing rubber. But lumber is imported not only for the purpose named, but

also for general carpentry work and all kinds of building construction. Indeed, it is safe to assert that the greater part of the lumber used in the larger Amazonian towns is imported either from the United States or from Europe.

This is certainly like carrying coals to Newcastle. Why people living along the Amazon, in the heart of the largest and richest forest in the world, where there are countless species of the best kinds of wood, should import the lumber they use, is not apparent to one who is unfamiliar with the conditions that obtain there.

In the Amazonian forests there are at least two or three hundred kinds of woods, but, paradoxical as it may appear, the greatest commercial difficulty comes from the large number of species. For, although the kinds of timber are so numerous, it is rarely that it is possible to find a large number of trees of the same species, in the same place. They are so scattered and at so great distances from one another, that their cutting and hauling would, as a rule, be extremely expensive.

Smith, in his *Brazil, the Amazons and the Coast*, explains the difficulty as follows: "Lumbermen deal in large quantities; they want so many hundred thousand or million feet of a certain kind of wood. Now suppose I should agree to furnish a million feet of pao d' arco; ¹ I would be baffled in the outset because the trees are few and far between; I must cut a road for every one; and then in a square mile of timber land I would get no more than fifty or a hundred logs. By rare good luck I may find an exceptional spot where the species that I am searching for exists in quantity, but such tracts are limited and often far from the river banks, where they are valueless at present." ²

For this reason, and because of the suicidal export tax and the prohibitive freight rates, very little lumber is shipped from the Amazon valley to foreign countries. So

¹ Meaning bow-wood, because, being tough and elastic, the Indians use it for making their bows.

² P. 201, New York, 1879.

far, the only exportation worth mentioning has been to Portugal, and the total amount shipped thither in 1906 did not have a market value exceeding seventy-five thousand dollars. There is no doubt a promising future in this great forest region for some enterprising lumber company with plenty of capital. Even now there is a fortune awaiting the first one to put on the markets of the world the scores of rare cabinet woods which abound in every part of Amazonia. For the interior furnishing of houses, no more beautiful woods can be found than the cedar of Brazil—*cedrella odorata*—the acapu and pao amarello, a yellow wood used for flooring.

The voyage from Manaus to Pará differed in no respect from that in the upper reaches of the river. The scenery was the same and the fauna and flora, with few exceptions, were similar to those which we had already seen.

About fifty miles below Manaus is the embouchure of the great river Madeira, so called by the first Franciscan explorers, on account of the immense amount of timber—*madeira*—that was observed floating down stream at the time of their passage.

The Madeira just now is attracting special attention in the commercial world on account of the long-projected railway, which is at last being built around the falls of San Antonio, six hundred and fifty miles from the Amazon. When this road shall be completed, communication between the Amazon and all parts of Bolivia will be easy and rapid. Hitherto, owing to the numerous rapids above San Antonio, freight, destined for points on the Beni, Mamoré and Madre de Dios, had to be transported partly by land and partly by water in canoes—for a distance of nearly two hundred miles. Even under such unfavorable conditions, the amount of freight shipped into and out of Bolivia by this route has been considerable, but the outlet for trade which the railroad will furnish will open up a new era for the northern and, in some respects, the most productive part of Bolivia. Already the amount of rubber received

from this section of South America is quite large, but, with improved communications, the quantity of this commodity, which will be exported from this region, will be greatly increased. The completion of the railroad will mean a great deal for the Bolivian republic, for, owing to the absence of a suitable outlet for its products, some of the richest parts of the country have hitherto remained undeveloped and practically unknown.

The people of Amazonia¹ interested me immensely, for they constitute a most complex population, the result of the intermixture of three distinct races,—the Portuguese, the Indian and the negro. The union of the white and the negro, as with us, gives the mulatto, while that of the Indian with the white and the negro produces respectively the *mameluco* and the *carafuz*. These half-castes and their intimate and continual amalgamation with one another constitute the Brazilian of the present day. He is essentially a mestizo and all the three races mentioned have contributed to the fixation of the actual type, although in Amazonia there is far more Indian than African blood in the half-breed inhabitants who, at least in the larger towns and cities, compose the majority of the population.

The passengers on our steamer included representatives of many races and climes. Among them was an Englishman on his way from the diamond mines of Matto Grosso; a Swiss gentleman and his bride,—a Peruvian lady,—who were bound for the rubber forests of one of the most distant affluents of the Purus; a full-blooded Indian and his twelve-year-old wife, who had the same destination; two Chinese merchants, who were investigating the business outlook in Amazonia, with a view to bringing their countrymen to this part of the world; but, by far the most singular character aboard was an aged Hebrew, with a long white beard, who might easily have passed for the *Wandering Jew*.

¹ The name sometimes given to the whole Amazon valley but more specifically used to designate the two great northern states of Brazil—Pará and Amazonas.

Although far advanced in years, he was still hale and hearty and was continually evolving plans for accumulating money. He had been in all parts of the world in search of fortune, and had alternately met with success and failure. He had fished for pearls in Ceylon, searched for rubies in Siam, sapphires in Cashmere, and diamonds in South Africa. He had been an exchange broker in Peru and Colombia, and had been jeweler to Dom Pedro, the last emperor of Brazil. He was returning from Iquitos, whither he had taken a large cargo of merchandise from New York, including a consignment of Milwaukee beer. When I met him he was, like myself, on his way to New York.

"In many of my ventures in South America," he said, "I made a pile of money, but in Iquitos I lost heavily. It was all because of the Morocco Jews there, who forced me to sell at their own price. The Morocco Jews are a bad lot—the worst Jews in the world. But I am going back there again with another cargo of goods, and the next time I shall make a pile of money"—this was a favorite expression of his—"in spite of those robbers from Morocco."

Then suddenly changing the subject, he asked, "Did you notice how black the Rio Negro was? I am sure there is gold along that river." And as we came in sight of Monte Alegre, near Santarem, he said, "I'll bet there are precious stones in those highlands. I shall investigate when I come down this way again, for I have no doubt there is a pile of money to be made there."

But, notwithstanding the fact that he was always thinking of "a pile of money," he was a most interesting character, a pleasing conversationalist, with an extraordinary fund of information on every topic. He was an accomplished linguist, and had a knowledge of the world that was surprising. And in spite of all his vicissitudes, he was as hopeful and optimistic as a young man with a bright future before him, and was as full of projects as if he were going to live forever.

As one descends the Amazon below Manaos, one remarks

the gradual widening of the main channel of the river. In some places the breadth is so great that it is impossible to see more than one of the banks at a time. And then the network of side-channels and igarapes and bayous becomes so complicated that only the most skillful pilots can find their way to their destination.

It is along these concealed waterways, where there is an abundance of fish and game, that the liberty-loving Indian prefers to make his home. It is here also where the *seringueiros*—rubber collectors—have their huts, except during the rainy season from February to July, when the ground is under water, and the *seringaes* are deserted. The best quality of rubber, called in Brazil *borracha* or *seringa*¹ is obtained here from the *Hevea Brasiliensis*, and is known in commerce as Pará rubber.

At Obidos the traveler is made aware of a remarkable change in the bed of the river. The channel is much narrower and deeper and the immense flood rushes through it with increased velocity. From a broad inland sea, the Amazon here contracts to such an extent that its width is but little more than a mile. For this reason it has been called the Bosphorus of the Amazon, and its strategical value, as the gateway to the interior of the continent, has been recognized from the days of the earliest voyagers.

Here highlands began to appear for the first time since we had left the Andes. And so enchanting was the view of something rising above the forest-clad plain, which we had so long been traversing, that Monte Alegre, which my Hebrew friend insisted was a likely place for precious stones of all kinds, seemed to me rather, like another Delos, to be the chosen home of Aphrodite. The joyful mount, “with rich luxuriant verdure clad” and rendered musical by “streams

¹ So called by Padre Manoel da Esperança because he discovered that the Cambelas Indians used it for making bottles in the form of syringes—*seringas*—whence the name *seringueiros*. Caoutchouc was the name applied to the substance by the Maynas Indians of the Upper Amazon, and was introduced into France by La Condamme, after his return from South America, in the middle of the eighteenth century.

sonorous, sweet and fugitive," loomed up in the distance from the sea of greenery like the "*formosa ilha alegre e deleitosa*"—"the delightful, lovely island, glad"—the beautiful Isle of Loves—described by Camoëns, which Venus, assisted by Cupid and the Nereids, prepared for the reception and entertainment of Vasco da Gama and his hardy mariners, after their epoch-making discovery of the passage to India by the Cape of Good Hope.

As I passed the mouth of the Tapajos I looked wistfully towards the south, for ever since I had left the Orinoco, at its confluence with the Meta, the desire had been growing on me to cross the continent from Lake Maracaibo to Buenos Aires, by way of the Apure, the Cassiquiare, the Madeira or the Tapajos and the Paraguay. Such a journey would, it is true, entail some hardships and a great deal of traveling in a dugout, but it would be far more romantic than traveling by steamer. It would, besides, take one off the beaten path and through some of the wildest and most interesting parts of South America. Once on the Apure, one can travel by water almost to the source of the Tapajos, whence, by a portage of a thousand feet, one can reach the headwaters of the Rio de la Plata, and thence continue by boat to the fair capital of Argentina. In fact, canoes coming from Santarem have, during high water, crossed the watershed near Diamantino,¹ and descended the Paraguay to Villa Maria. Will this desire of mine ever be realized? *Quien sabe?* Speaking for my single self, it is certainly "a consummation devoutly to be wished."

As we approached Pará I noticed quite a number of fish-smacks and *montarias*—Indian canoes—scattered along the river, all engaged in making provision for the city market, which is justly celebrated for the quantity and variety and excellence of the fish there offered for sale. According

¹ "The Fazenda do Estivado, near Diamantino," writes De Castelnau, "is one of the most curious points of the continent," for "here, but a few paces apart, are the sources of two of the greatest rivers of the world,—the Amazon and La Plata." *Expédition dans les Parties Centrales de L'Amérique du Sud*, Tom. II, p. 357, Paris, 1850.

to Agassiz, "the Amazon nourishes nearly twice as many species as the Mediterranean, and a larger number than the Atlantic, taken from one pole to the other." Still more remarkable is his statement regarding "the intensity with which life is manifested in these waters. All the rivers of Europe united, from the Tagus to the Volga, do not nourish one hundred and fifty species of fresh-water species, and yet in a little lake near Manaos, called Lago Hyannary, the surface of which covers hardly four or five hundred square yards, we have discovered more than two hundred distinct species, the greater part of which have not been observed elsewhere." The eminent naturalist estimated the total number of species, which he had been able, in less than seven months, to collect in the Amazon, between Pará and Tabatinga to be from eighteen hundred to two thousand.¹

And yet, incredible as it may seem, we never saw a single fresh fish of any kind on the table of our steamer during our entire trip down the Amazon. When one of the passengers spoke to the steward about procuring some, he replied that they cost too much and that he had positive orders from his company to economize and keep down expenses to a minimum.

Four days after leaving Manaos, we came to anchor off the queen city of Amazonia—a city that rejoices in the name of Nossa Senhora de Belem do Grao Pará, but which is usually known as Pará. It was founded in 1615 by Captain Francisco Calderra del Castello Branco, and numbers about one hundred and twenty thousand inhabitants. Among its many attractions are its beautiful parks and colonnades of royal, miriti and assai palms and the dark mango trees draped gracefully with cypress vines and *Convolvuli*, which are seen in many of the gardens around the houses. But to me the most interesting place in Pará was the Botanical Garden, where are collected the chief floral beauties of Amazonia—rare and delicate plants, with the most fragrant blooms, and countless palm trees, some of which, like the

¹ Op. cit. p. 382.

bussu and the jupati, have enormous, plume-like leaves from forty to fifty feet in length, while others, like the *Maximiliana regia* with its noble crown of great glossy leaves, tower high above all their fellows.

As I was wandering through the market examining the fruits and fish that were there displayed in great profusion, I ran into my Hebrew friend, who was enjoying a glass of *vinho d' assai*—the juice of the assai palm—which had been prepared for him by a comely young *mameluca* who was surrounded by a crowd of natives, all clamoring for a draught of their favorite beverage. Indeed, so fond of this drink are the people of Pará, and so proud of their city, that they declare that

“Quem veio para Pará parou;
Quem bebeu assai ficou.”

(“Who came to Pará was glad to stay,
Who drank assai went never away.”)

After inviting me to take a glass with him, the old gentleman, much to my surprise, informed me that he had concluded to leave our steamer, on which he had intended to remain until his arrival in New York, for which he was booked.

“I can,” he said with considerable feeling, “stand it no longer. I cannot eat the food served on the steamer, and it would be impossible for me to remain longer aboard without danger to my health. For more than a week past I have been half starved. Think of it! We have, since leaving Iquitos, been in the best fruit and fish region in the world, and the only fruits we have had were oranges and bananas, and the only fish, canned salmon, and dry codfish. Not once have we seen fresh fish on the table, nor any of the nuts and fruits that are so abundant in the Amazon valley. Look at the variety of fish and fruit here. It was the same in the market of Manaos, and yet there was absolutely no provision in this line made for the passengers of our steamer. I spoke to the steward about the matter to-day,

and what do you think he told me? He said he had orders from his company to keep down expenses and that passengers would have to be satisfied with what was given them. That is the way with monopolies. You are helpless when you are unfortunate enough to fall into their clutches. I am told that the annual dividends of the company are thirty-five per cent. *Dios mio!* It must make a pile of money. And to think that it all comes from our pockets and those of people like us, who are forced to patronize the grinding monopoly!

"No, I can stand it no longer. Eager as I am to reach New York at the earliest possible date, I shall wait here for the arrival of a European steamer and return to New York by way of Lisbon and London." In bidding me goodbye, he expressed the hope that we should soon meet each other in New York, or in some other part of the world.

Who was this mysterious man and whence did he come? I never learned his name nor the land of his birth. In my diary, he is called Kartaphilos, one of the many traditional names of the *Wandering Jew*.

By reason of its location near the mouth of the Amazon, where it can control the trade of half a continent, Pará should be a city with a great future. But much remains to be done both in the city itself and in the valley of the Amazon before Pará can attain to her manifest destiny.

For years past the chief product of the great Amazon basin has been rubber. To secure this, everything else has been neglected—agriculture, grazing, manufactures. The balsams, gums, dyes, spices, drugs, and cabinet woods which are so abundant, have remained practically untouched. Here is the most fertile rice land in the world and yet most of the rice consumed the whole length of the river is imported from China. The vast territory extending from Pará to the Andes is capable of yielding maize enough to supply the world, but the cornfields are almost entirely confined to the small Indian plantations, which barely suf-

fice for the consumption of the owner and his family. Nowhere do cane, cotton and cacao grow in greater luxuriance, and still their cultivation has received comparatively little attention. Great as was the fecundity of the Nile valley, when it was the granary of Rome, that of the Amazon is incomparably greater, for it is capable of becoming, under proper development, the granary of the world.

When the oppressive export laws, that now obtain, shall be abolished; when the foreign steamship monopoly, that at present so retards the march of commerce in the Amazon valley, shall be broken; when "the colossal traffic, of which the whole basin is susceptible," shall be thrown open to fair competition, which now exists only in name; when European colonists can be induced to make their homes in this most fertile part of the globe; and when foreign capitalists shall be encouraged to invest their surplus millions in developing the marvelous resources of this favored land, then and not till then will the vast region, drained by the great father of waters, be in a fair way towards justifying the fond hopes that have been so long entertained respecting its place in the world of commerce and civilization.

But even when all this shall have been done, one thing more will be required, before permanent success can be guaranteed. Measures will have to be taken to secure proper sanitation along the valley, especially in the larger cities and in the various ports of call. Yellow fever, which has so long been so terrific a scourge in Pará and Manaos, will have to be stamped out and all danger from other tropical diseases, which in the past have claimed such heavy life-tolls, will have to be eliminated.

Thanks to the memorable achievements of Pasteur and those who have followed in his footsteps in the United States, notably Reed, Carroll, Lazear and Agramonte, this is now possible. It will be necessary to protect man in his towns and camps and trade routes from the ravages of the *stegomyia* and *anapholes*, which have wrought such havoc since the time of the conquistadores. The stigma that has

so long attached to Brazil, of being *Le tombeau des étrangers*—the white man's grave—will have to be removed.

Much has already been accomplished in various parts of the great republic toward suppressing the dread visitant that has so frequently decimated its fairest cities and most important marts. Rio and Santos, owing to the prevalence of yellow fever, were once veritable death traps for the white man, and in their harbors "ships once rotted and fell to pieces for want of crews—all had died of the accursed disease." To-day, thanks to Dr. Oswaldo Cruz and his associates, "no one fears, and no ship rots."

What has been achieved in Rio and Santos and Havana and Panama, can likewise be accomplished in Pará and Manaos and throughout the length and the breadth of the Amazon basin. Yellow and malarial fevers, and other tropical diseases, that have so long acted as a deterrent to immigration, and which have so long retarded the development of the country, can be eradicated here as well as elsewhere. It is now no longer a question of theory or experiment but a matter of administration. The presence of any of the devastating diseases mentioned argues either ignorance or criminal negligence. There is to-day no more reason why yellow fever should still claim its victims in Pará and Manaos and Guayaquil, than in Mobile or New Orleans or Galveston. Science has furnished us with the means of successfully coping with the fell destroyer, and that community betrays mal-administration of the worst type where yellow fever is still allowed to continue endemic.

Col. Gorgas, chief sanitary officer of the Isthmian Canal Commission, whose successful battles with yellow and malarial fevers in Havana and Panama have commanded the admiration of the entire civilized world, in a notable address on *The Conquest of the Tropics for the White Race*, recently delivered before the American Medical Association, expressed himself as follows:

"The advances in tropical sanitation in the last fifteen years have shown that the white man can live in the tropics

and enjoy as good health as he would have if living in the temperate zone. This has been demonstrated both by our two military occupations of Cuba and by our present occupancy of Panama.

“The returns for labor are many fold greater in the tropics than they are in the temperate zone. I think, therefore, that during the next few centuries the tendency will be for the white man to drift to the tropics. I dare to predict that after the lapse of a period, let us say, equal to that which now separates the year 1909 from the Norman conquest of England, localities in the tropics will be the centers of as powerful and as cultured a white civilization as any that will then exist in the temperate zones.

“I believe that our work in Cuba and Panama will then be looked on as the earliest demonstration that the white man could flourish in the tropics and as the starting-point of the effective settlement of these regions by the Caucasians.”

It is true that, thanks to the efforts of the Liverpool School of Tropical Medicine, which, in 1905, inaugurated a vigorous campaign against the *stegomyia calopus* from Pará to Iquitos, sanitary conditions have been considerably ameliorated along the Amazon. But there is yet much to accomplish before yellow fever shall be effectually banished. For, during our brief stay in Manaos and Pará, there were several deaths from the dread disease, and foreigners who were not immune lived in constant apprehension of its recurrence in malignant, epidemic form.

When the campaign now being conducted against yellow fever and other tropical diseases shall have been brought to a successful issue, and when the obstacles, above enumerated, to the development of commerce and immigration shall have been removed, then may one see at no distant future, at least a partial verification of the prediction made sixty years ago by Lieutenant Herndon, when he penned the following lines:

“I have no hesitation in saying that I believe in fifty years Rio Janeiro, without losing a tittle of her wealth and great-

ness, will be a village to Pará and Pará will be what New Orleans would long ago have been but for the activity of New York, and her own fatal climate,—the greatest city of the New World; Santarem will be St. Louis, and Barra’—the present Manaos—“Cincinnati.”¹

The French astronomer Flammarion, in his weird romance—*Omega: The Last Days of the World*—makes his hero and heroine—the last human pair on earth—expire at the foot of the pyramid of Cheops, the most enduring monument of our race. If I should venture an opinion on such a problematic matter, I should be disposed to assert that the extinction of human kind is more likely to occur somewhere in the great Amazon valley, for it, in all human probability, will be the last place on earth to feel the touch of eternal frost, which, sooner or later, will hold in its frigid grip all the planets and suns of the fathomless universe.

¹ *Exploration of the Valley of the Amazon*, p. 367, Washington, 1854.

CHAPTER XXV

HOMEWARD BOUND

After leaving Pará, my *Wanderjahr* in the wake and in the footsteps of the conquistadores was practically at an end. Thence onward, until my arrival in New York, there was little to be seen except sea and sky. I was, of course, interested in the great island of Marajó—larger than Sicily and with a greater area than Massachusetts—which lies between the estuaries of the Amazon and the Tocantins. It is true that the greater part of the immense Amazonian flood enters the ocean on the northern side of the island, but enough of it passes through the southern channel, sometimes called the Rio Pará, to justify one in regarding Marajó as located entirely in the embouchure of the Amazon. That the great river should hold in its embrace an island of this magnitude, not to speak of others to the north, gives one a vivid conception of its immensity. Its mouth is eighty miles in width, and so great is the volume of water poured into the ocean that the yellow water of the Amazon can be distinguished from the blue wave of the Atlantic at a distance of more than fifty miles. But, unlike the Orinoco, the Nile, the Ganges and the Mississippi, the Amazon, strange to say, has no delta. Its immense volume of water, three times that of the Mississippi, rolls through the broad channels—*Mar Dulce*, sweet-water sea—to the north and the south of Marajó, encountering at virtually a single point the opposing will of the broad *Mar Oceano*.

We left the Amazon and the equator at almost the same moment, for the northern part of the equinoctial line and the northern shore of the great river's mouth almost coincide.

My last view of South America was synchronous with the appearance on our port quarter of a magnificent double rainbow. This was the third time during my journey across the continent that I had been favored by what my Peruvian companions always insisted was a good omen for the traveler. The first time was when I was leaving the Pacific; the second after I had crossed the Cordilleras, and was started on my way down the Paranapura. If the view of my Andean friends was correct, a double rainbow should betoken more of good and success than a single one. I loved to think so at the time, and the happy termination of my wanderings a fortnight later more than realized my fondest hopes.

As the hazy coast line of Amazonia receded from view and I realized that I was leaving behind me the beauteous continent of the Southern Cross, I experienced a sense of longing I had never known before. Longing, however, does not wholly express the feeling that then took possession of me, for it was more than longing. It was what the Portuguese call *saudade*, what the Germans denominate *Sehnsucht*, words that have no equivalent in English, and which signify not only intense yearning and regret, but also sweet remembrance. I regretted leaving South America, where I had spent such a delightful, such an instructive year, and would fain have returned, if duty had not beckoned me homeward. The *Wanderlust*, which was strong when I left New York nearly a twelvemonth before, far from being abated, was stronger and more insistent than ever.

I recalled with pleasure the happy months I had spent while contemplating the wonders of the mountains and rivers and forests of our sister continent and enjoying the bounteous hospitality of its charming and generous people, and began forthwith to make preparations for a more extended journey in a land that possessed so many and so varied attractions. I had seen much, but much more remained for another visit.

And best of all—and I wish to emphasize specially this

feature of my wanderings—the journey, long as it was, was devoid of every untoward incident. There was never any delay but once, and that was because the steamer on which we had engaged passage had to be docked for repairs. But this vessel belonged to an European and not to a South American company. There was never any danger even in the wildest and most untraveled parts of the country, and only once did I regret that I was not provided with fire-arms. That was on the Meta, when I saw cloud-like flocks of wild ducks flying over our heads, and had no means of securing a few of them for a change of diet. The people everywhere, whites, mestizos, Indians, were always kind and considerate, and only twice had I reason to complain of a lack of courtesy and fair treatment, and that was at the hands of two supercilious Europeans—agents of two foreign corporations—men who seemed to fancy they were furthering the interests of their companies by resorting to sharp practices which they would never dare attempt where condign punishment would immediately follow.

When, before leaving New York, I announced my itinerary to some friends, whose travels in South America had been confined to the places reached by steamers and railroads, they endeavored to dissuade me from what they pronounced a rash and dangerous undertaking. They warned me particularly against certain parts of South America where, they assured me, was rampant

“What ever hideous thinge the earth his enemy
 Begets, or what soever sea or ayre hath brought to syght
 Both dreadful, dire and pestilent, of cruel, fiercest might.”¹

But heedless of the warnings given me, I went to the regions that were pronounced so beset with danger. And, while grateful to my friends for their kindly interest in me, I shall ever feel that I should have missed the most interesting and the most enjoyable part of the tropics if I had hearkened to their monitions. I found none of the

¹ Seneca, *Hercules Furens*, Act I, v. 30–32.

“All monstrous, all prodigious things,
Abominable, unutterable and worse.

.
Gorgons, and hydras, and chimæras dire,”

which they imagined would confront me at every turn, and experienced none of the hardships which, they declared, were inevitable.

More than this, I left New York an invalid, and presumably requiring the conveniences and comforts of home. But no sooner did I begin to rough it in the wilds of the equatorial regions than health and strength returned apace, and it was not long before every vestige of illness had entirely disappeared.

And nowhere did I suffer any inconvenience from change of climate or food. Only once was I incommoded by the heat, and that was when I was trying to take a siesta in my stateroom while on the Huallaga; and only once did I suffer from the cold. This was at the foot of Chimborazo, where our train ran off the track, and where we had to spend a chilly night in a windowless car, with no means of heating it. Although I frequently spent many days in succession on horse or mule back in a continual downpour, I never got wet, and never felt any ill-effects from exposure. Of course, I always took whatever precautions prudence dictated, and followed, as I should have done in my own country, the ordinary rules of hygiene in eating and drinking. Where I could not find a clean bed in the humble homes of the natives, I always had recourse to my cot and blankets. Where the huts or tambos were small or crowded, I always used my tent, and in this, whether on the summit of the Andes or in the forests of the montaña, I slept as soundly as I ever did in the downiest couch.

As to food, I found no difficulty in satisfying the cravings of hunger with the simple fare prepared for me by the natives. So far, indeed, was this from being the case, that I soon came to enjoy it. No one could have broiled a chicken



FOREST VIEW ALONG THE AMAZON.



BOTANICAL GARDEN, PARÁ. VICTORIA REGIA IN THE FOREGROUND.

better or prepared a better stew than did many of the Indian women who acted as my cooks during my peregrinations. While traveling in uninhabited districts I drew from my own stores which I always had with me for any emergency. These consisted mainly of crackers, coffee, chocolate, bacon—uncanned—potatoes, cheese and sardines. Canned goods, as a rule, except certain cereals, proved a failure. Whether it was because of the climate, or because they were not sufficiently fresh when I purchased them—they were guaranteed to be just from the factory—I am not prepared to say. In most places, I could get chickens and fresh eggs, not to speak of an abundance of fruit of various kinds. But wherever my provisions came from, I never suffered from hunger more than a few hours at most, and never found it necessary to eat what was unwholesome or repulsive. I always carried a good filter with me to insure pure water, and by this means I never experienced any of the evil consequences which result from drinking the contaminated waters of rivers and streams.

On my way across the Andes to the Amazon, I had, thanks to a thoughtful friend in Lima, a case of good old claret. Nothing during my long and arduous ride across the Cordilleras could have been more serviceable or more agreeable than this choice beverage. It was, especially at the end of the day's journey, more than a grateful draught or stimulant. It was meat and drink, and restored at once the flagging energy of myself and companions and prepared us to enjoy our frugal evening repast, which frequently was nothing more than a dish of *chupe* or *sancocho*. Indeed, so beneficial was it as a restorative that, if I were to make a similar journey in the tropics, which is likely, one of the first items on my list of provisions would be a case or two of generous old Bordeaux.

I am aware that some of my readers will think that my experience is tinged with more of the *couleur de rose* than is found in the narratives of certain South American

travelers, but I have endeavored to give an honest account of persons and things as I found them.

Sterne, in his *Sentimental Journey*, tells of one Smelfungus, who "traveled from Boulogne to Paris—from Paris to Rome, and so on—but he set out with spleen and jaundice, and every object he passed was discolored or distorted. He wrote an account of them but 'twas nothing but the account of his miserable feelings."

Sterne met this same Smelfungus on his way home "and a sad tale of sorrowful adventures he had to tell," wherein he spoke of moving accidents by flood and field and of the cannibals which each other eat; the Anthropophagi,—he had been flay'd alive and bedevil'd, and used worse than St. Bartholomew at every stage he had come at—

"I'll tell it," cried Smelfungus, "to the world." "You had better tell it," said I, "to your physician."

If the genial humorist could read certain books that have appeared on South America, in which its people are introduced and their country misrepresented to such an extent as to provoke from them an indignant protest; if he could read of the dangers from man and beast, that are recounted at such length, and of the extraordinary adventures that are described, but which never had any existence outside the writers' fertile imaginations, he would, I think, be disposed to reiterate for their behoof, the salutary advice he gave Smelfungus.

Owing to the heavy mist that enveloped the ocean, I was unable to get a view of the Polar Star until the second night after leaving the equator. This was the first time I had seen it for many months, and the first glimpse of it was like meeting an old friend. I knew now that we had left the southern hemisphere behind us. The Coal-sack and the Magellanic Clouds are rapidly approaching the southern horizon, and Achernar, Canopus and the Southern Cross, that have so long been my joy at night, follow them *pari passu*. The Great and the Little Bear rise up over our prow, while

HOMeward BOUND

“The Charioteer

And starry Gemini hang like glorious crowns
Over Orion's grave low down in the west.”

Yes, we are bound for Nifflheim, the home of fogs and frosts, but I am glad, for it is also my home, and, none too soon can I reach it, though happy has been my year in the land of flowers and sunshine.

As I have stated, my memories of South America are of the pleasantest, but I should have noted one exception, and it is an important one, although it concerns rather my country than myself personally.

While admiring the marvelous resources of the lands bordering the equator, and observing the enterprise of the Germans, English, French, and Italians in every department of industrial and mercantile activity, I could not but be struck by the backwardness of the United States, where trade opportunities are so exceptional and where there is in Johnsonese phrase, “the potentiality of growing wealthy beyond the dreams of avarice.” For, outside of the flourishing corporation of W. R. Grace & Company and a few mines and railways, which are controlled by American capital, the United States, so far as commerce is concerned, is deplorably inactive.

Not once, south of the Caribbean, did I ever see a single steamer fly the stars and stripes, except an armored cruiser in the harbor of Callao. All freight and passenger traffic, even that from the United States, is controlled by British and European companies. Nowhere did I find an American bank. All financial transactions in South America are in the hands of our commercial competitors. The bulk of the great annual trade prize, of more than \$2,000,000,000, goes to Great Britain and Europe. Our commerce with Latin-America is gradually growing, it is true, but not by any means at the rate it should, and the balance of trade is still enormously against us.

This deplorable state of affairs is due, in part, to the fact that our people are still ignorant of the marvelous re-

sources of our sister republics and that they have not yet learned of the great commercial and industrial awakening that is to mark the beginning of a new era, not only in South America but throughout the entire business world.

The cycle of domestic and foreign disturbances, that have so long been a bar to social and economic progress, is being succeeded by an age of law and order, of mercantile enterprise and general prosperity. Militarism, that for generations has kept the continent in a ferment, is making way for commercialism, and for just government by the people for the people. The "stage of strife and discord, of individual selfishness, of unrestrained ambition, of irresponsible power," has had its day, and revolutionists and dictators are everywhere being recognized as the greatest foes of their respective countries, and their ambitious schemes are, therefore, promptly suppressed.

Vexatious boundary disputes are now referred to arbitration, while other controversies are settled through diplomatic channels, quite as satisfactorily as among European nations. And such settlements, it has been observed, are always followed by a more rapid development of domestic industry and foreign commerce. The foreign trade of Argentina amounting to \$700,000,000 and the commerce of the other republics aggregating a much larger sum, all make strongly for peace, and inspire a feeling of confidence among foreign investors that before was quite unknown. Other important peace agencies are the frequent Pan-American congresses, and, above all, the *Pan-American Union*, whose headquarters are in Washington.

As a consequence of this immense change for the better, immigration is pouring into certain sections of South America at the rate of several hundred thousand a year, and it will not be long until this beneficent wave shall have spread over the entire continent. Foreign capital, in immense amounts, is annually flowing into the greater number of the republics, where it is as fully safeguarded, and where the returns from it are as gratifying, as they are

certain. That such is the case is evidenced by the untold millions that European investors are annually placing in the mines and railroads, and in the countless industries that are springing up in every direction. It is shown by the rapid growth of such cities as Rio Janeiro, which now counts nearly a million inhabitants and Buenos Aires, which is growing more rapidly than any metropolis in the United States, except Chicago and New York, and which, after Paris, is the largest Latin city in the world.

From present indications, the development of South America will be as great during the twentieth century as that of the United States during the nineteenth. England sees this, Germany, France and Italy see it, and have shown their faith in the future of the republics south of the Caribbean by investing not millions but billions for the development of their exhaustless resources.¹ Even far-off Japan sees it, and, to make sure of her share of the rapidly increasing trade of this newly-awakened continent, which has more than two and a half times the area of the United States, she has established a line of steamers between the ports of Nippon and those of western Latin-America. James G. Blaine, that gifted, resourceful organizer of the first Pan-American Congress, who was able to project the historian's knowledge into the statesman's comprehension of the future, saw it, and left nothing undone to render his hopes a reality. Roosevelt and Root saw it when they championed ship subsidies in order to meet similar subsidies paid by the principal maritime nations of the world to enable our commercial competitors to operate their steamship lines at a profit.²

¹ It is estimated that more than \$800,000,000 of American capital is now invested in Mexico. There is still room in South America, in places where securities are gilt-edged, for many times this amount.

² The total amount of the subsidies annually paid by our commercial competitors to their steamship lines is about \$28,000,000, a large part of which goes to the lines engaged in South American trade. Obviously the only way for the United States, in the face of such conditions to secure her share of traffic, is to have her own lines of steamers and meet subsidy by subsidy.

Mr. Root observes with truth that "We are living in a world not of natural but of subsidized competition. State aid to steamship lines is as much a part of the commercial system of our day as state employment of consuls to promote business."

President Roosevelt in his message to Congress in November, 1905, declared that "To the spread of our trade in peace and the defense of our flag in war a great and prosperous merchant marine is indispensable. We should have ships of our own and seamen of our own to convey our goods to neutral markets, and in case of need to reinforce our battle line. It cannot but be a source of regret and uneasiness to us that the lines of communication with our sister republics of South America should be chiefly under foreign control. It is not a good thing that American merchants and manufacturers should have to send their goods and letters via Europe if they wish security and dispatch."¹

But, in order that the United States may act a becoming rôle in the great commercial and industrial movements that have been inaugurated in South America, in order that she may secure proper representation in the great enterprises that are so rapidly multiplying in every sphere of material development, in order that she may exert the influence and enjoy the prestige that comports with her position among the great nations of the world, it is not sufficient that she have well-organized banks in all the great cities, and fast, commodious steamers to all the principal ports. These agencies, necessary as they are, must be followed up by cultivating intimacy and friendship with our Latin-American neighbors, if we would successfully overcome the handicap due to differences of lineage and language. Our intercourse with them must be more frequent, our knowledge of their manners and customs and traditions must be more complete, our understanding of their wants and methods

¹ *Presidential Addresses and State Papers*, Part IV, p. 623-24. Cf. also Part V, p. 1109 et seq. and 1120 et seq.

of transacting business more perfect, while at the same time a mutual sympathy between the Spanish-American and the Anglo-American must be cultivated that shall be in the language of Blaine, "as broad as both continents."

Mr. Root, in his memorable journey to South America in 1906, did more to remove the suspicions and apprehensions that have long been entertained in certain parts of the southern continent about the *Yankee Peril* and the *Yankee Colossus* than could have been accomplished by half a century of diplomacy. He effectually dispelled the idea, so long prevalent in South America, that "our assertion of the Monroe Doctrine implied or carried with it an assumption of superiority and of a right to exercise some kind of protectorate over the countries to whose territory the doctrine applies." In stirring words, that should be graven on tablets of gold in every legislative hall in the Pan-American Union, he assured the delegates assembled at the third conference held at Rio Janeiro that "We wish for no victories but those of peace; for no territory except our own, for no sovereignty except the sovereignty over ourselves. We deem the independence and equal rights of the smallest and weakest member of the family of nations entitled to as much respect as those of the greatest empire, and we deem the observance of that respect the chief guaranty against the oppression of the strong. We neither claim nor desire any rights or privileges or powers that we do not freely concede to every American republic. We wish to increase our prosperity, to extend our trade, to grow in wealth, in wisdom, and in spirit, but our conception of the true way to accomplish this is not to pull down others and profit by their ruin, but to help all friends to a common prosperity and a common growth, that we may all become greater and stronger together."

Shortly after his return to the United States, in a notable address before the Trans-Mississippi Commercial Congress, on *Commercial Relations with South America*, Mr. Root made an equally important pronouncement for the en-

lightenment and guidance of our people respecting the resources and inhabitants of our sister continent, in which, among other things, he stated, in words which should never be forgotten by our merchants or government officials, that "The material resources of South America are in some important respects complementary to our own; that continent is weakest where North America is strongest as a field for manufacturers; it has comparatively little coal or iron. In many respects the people of the two continents are complementary to each other; the South American is polite, refined, cultivated, fond of literature and of expression and of the graces and the charms of life, while the North American is strenuous, intense, utilitarian. Where we accumulate, they spend. While we have less of the cheerful philosophy which finds sources of happiness in the existing conditions of life, they have less of the inventive faculty which strives continually to increase the productive power of man and lower the cost of manufacture. The chief merits of the peoples of the two continents are different, their chief defects are different. Mutual intercourse and knowledge can not fail to greatly benefit both. Each can learn from the other; each can teach much to the other, and each can contribute greatly to the development and prosperity of the other. A large part of their products find no domestic competition here; a large part of our products will find no domestic competition there. The typical conditions exist for that kind of trade which is profitable, honorable and beneficial to both parties."

No statements could have been more timely or could express more clearly what should be the attitude of our country towards the republics of South America than the two just quoted. In these President Roosevelt's brilliant ambassador of peace to the southern continent has indicated how the different nations of the western hemisphere can advance one another's interests without jeopardizing their own, how the prosperity and happiness of each can be furthered by all working in unity and harmony.

This is the psychological moment for the United States to be up and doing; the time for her to grasp the golden opportunities that now present themselves in every department of human endeavor, and to secure those points of vantage in the great centers of trade and industry that are so essential for her success in the future.

We are no longer the debtor nation that we have been for so many decades. Our foreign obligations have been met and we are now in a position to invest a portion of our rapidly accumulating surplus outside of our own country. Nowhere shall we find a better outlet for excess capital than in South America. Everywhere there are electric and steam railways to be built, telegraph and telephone systems to be inaugurated, water and electric power plants to be erected, factories and docks to be constructed, agricultural and stock-raising enterprises to be developed, mines of iron and copper and tin, of silver, gold and diamonds to be exploited, and other industries, too numerous to mention, but certain to yield good dividends, to be financed. And lastly, but probably the most important undertaking of all, there is the great Pan-American railroad—that matchless thoroughfare—to be completed, which is to unite the two continents by bands of steel and make it possible for one to travel in a Pullman car from New York to Buenos Aires.

Merchants and capitalists cannot begin too soon their campaign to secure their share of the enormous and rapidly growing trade of South America. They should be prepared in time by the establishment of banks, and mercantile houses and fast steamship lines to reap all the advantages that will accrue to them from the opening of the Panama Canal, which is destined to revolutionize the trade routes of the world and put the Pacific coast of South America within easy reach of our Atlantic and Gulf ports. If our merchants and bankers were to exhibit a tithe of the enterprise and perseverance and diplomacy which have made the Germans so prominent in every one of the South American republics, if our statesmen were to display the wisdom and

initiative and foresight of Bismarck and William II, who have built up a merchant-marine that is unrivaled, and extended the commerce of the *Vaterland* to every corner of the globe, we could entertain the hope of being able to retrieve the losses we have suffered by having our trade carried in foreign bottoms, and of regaining the prestige that was ours when the stars and stripes fluttered on every sea, and when our ships carried over ninety per cent. of our export trade, instead of the insignificant nine per cent. which it carries to-day.

It was a year, almost to the hour, from the time I left home until I caught the first glimpse of the Statue of Liberty in New York harbor, on my return from the land of palms and perpetual summer. I had visited all the lands, and more, which I purposed seeing on setting out on my long journey through the untraveled and little known regions bordering the equator. And without haste and without difficulty, I had been able to make it in the time I had allowed myself before my departure. I left home as an invalid seeking health and recreation. I found both, and returned to my own with health restored and with a greater capacity for work than I had known for years. Naturally I was gratified with my success—gratified not only that I had accomplished what I had set out to do in a given time, but gratified also that I had thereby proved that one may traverse even the wildest and least populated parts of South America with comparative ease and comfort.

But much as I had enjoyed every hour of my *Wandertage*, happy as I had always been in the contemplation of the sublime and the beautiful on Andean heights and in Amazonian plains, grateful as were the balmy breezes and delicate perfumes of the equinoctial regions, where at times I fancied I would fain tarry forever, still I was never so delighted to return to the land of my birth as on this occasion.

As at the time of my departure a twelvemonth before, so now also was New York in the grip of the Frost King, and all nature seemed to be dead. But the contrast with

all I had left behind me but two weeks previously appealed to me in a singular manner, and made me realize, as never before how pleasurable is the recurrent change of seasons in our northern latitudes as compared with the uniformity of climate in the tropics which, in spite of the splendid luxuriance and endless variety of plant-life, becomes at times so monotonous as to be almost oppressive. The leafless trees and the snow-covered ground possessed for me unwonted beauty; the arctic blasts that lashed the ocean into foam, gave forth a music which, until then, I had never recognized. And as I stood forward on the upper deck, while we were steaming into the great city's harbor, where loving hearts were awaiting me, I was minded of Petrarch's return home, after a long absence, and of his noble apostrophe to his country, so apt now to express my own sentiments:

“Hail, land beloved of God, O holiest, hail!
 To good men safe, a menace to the proud;
 Land of the great, the shores more gracious far,
 More rich of soil, more beautiful than all;
 Girt with twin seas, famed for thy gleaming mount,
 Of arms and peaceful laws the holy shrine;
 Pierian home, with wealth of gold and men,
 Nature and art united on thee pour
 Their gifts, making thee mistress of the world.
 To thee at last I yearningly return,
 Still, still thy citizen.

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 Thee, fatherland, I own and greet with joy,
 Hail, beauteous Mother, pride of nations, hail!”

BIBLIOGRAPHY

PARTIAL LIST OF THE WORKS CITED IN THIS VOLUME

- ACOSTA, PADRE JOSÉ DE. *Historia natural y moral de las Indias*. Sevilla, 1590. Translated into English in 1604 by Grimston.
- AGASSIZ, PROFESSOR AND MRS. LOUIS. *A Journey in Brazil*. Boston, 1868.
- AMEGHINO, F. *Antigüedad del Hombre en El Plata*. Buenos Aires, 1880.
- AMICH, FRAY JOSÉ. *Compendio Historico de los Trabajos de la Serafica Religion en las Montañas del Peru*. Paris, 1854.
- ANDGRAND, M. LE. *Lettre sur les Antiquités de Tiaguanaco et l' Origine Présumable de la plus Ancienne Civilization du Haut-Perou*. Paris, 1866.
- ANGLERIUS, PETRUS MARTYR. *De nouo orbe, or the historie of the West Indies, contayning the actes and aduentures of the Spanyardes, which haue conquered and peopled those countries, inriched with varitie of pleasant relation of the manners, ceremonies, lawes, governments, and warres of the Indians. Comprised in 8 decades. Written by Peter Martyr a Milanoise of Angleria, chiefe secretary. Whereof three, haue beene formerly translated into English, by R. Eden, whereunto the other fiue, are newly added by the industrie, and painefull trauaile of M. Lok. Gent.* London, 1612.
- Antologia de poetas Hispano-Americanos, publicada por la Real Academia Española*. Madrid, 1894.
- ARRIAGA, PABLO JOSÉ DE. *Extirpacion de la Ydolatria de los Indios del Peru*. Lima, 1621.
- BALUFFI, GAETANO. *L'America un Tempo Spgnuola*. Ancona, 1845.
- BANDELIER, ADOLPH F. *The Islands of Titicaca and Koati*. New York, 1910.
- BATES, H. W. *The Naturalist on the Amazons*. London, 1863.
- BELAUNDE, VICTOR ANDRES. *El Peru Antiguo y los Modernos Sociologos*. Lima, 1908.

BIBLIOGRAPHY

- BETANZOS, JUAN DE. Suma y narracion de los Incas, Biblioteca Hispano-Ultramarina. Madrid, 1880.
- BOLLAERT, W. Antiquarian, Ethnological and other Researches in New Granada, Ecuador, Peru and Chile. London, 1860.
- BOUSSINGAULT, J. B. Viages científicos á los Andes Ecuatoriales. Paris, 1849.
- CALANCHA, FRAY ANTONIO DE CORONICA. Moralizada del Orden de San Augustin en el Peru. Barcelona, 1638.
- CAPPA, P. RICHARDO. Historia del Peru. Lima, 1886.
- CARVAJAL, FR. GASPAR DE. Descubrimiento del Rio de las Amazonas. Sevilla, 1894.
- CASTELLANOS, JUAN DE. Elegias de Varones Ilustres de Indias, in the Biblioteca de Autores Españoles, Tom. IV, Collection Rivadeneyra. Madrid, 1850.
- CASTELNAU, FRANCIS DE. Expedition dans les Parties Centrales de l'Amérique du Sud. Paris, 1850.
- CHANTRE Y HERRERA, P. JOSÉ. Historia de las Misiones de la Compañia de Jesus en el Marañon Español. Madrid, 1901.
- CIEZA DE LEON PEDRO DE. The Travels, contained in the First Part of his Chronicles of Peru. The Hakluyt Society. London, 1864.
- . Segunda Parte de la Cronica. Madrid, 1880.
- . Tercero Libro de las Guerras Civiles del Peru, el cual se llama la Guerra de Quito. Madrid, 1872.
- COBO, P. BARNABÉ. Historia del Nuevo Mundo. Sevilla, 1892. Coleccion de libros raros y curiosos que tratan de America. Madrid.
- Coleccion de documentos ineditos relativos al descubrimiento, conquista y colonizacion de las posesiones Españolas en America. Madrid, 1864-1899.
- CONDAMINE, M. DE LA. Relation Abrégée d'un Voyage fait dans l'Intérieur del' Amérique Méridionale. a Maestricht, 1778.
- CRUZ, FRAY LAUREANO DE LA. Nuevo Descubrimiento del Rio Marañon. Madrid, 1890.
- FERNANDEZ DE OVIEDO Y VALDES, GONZALO. Historia General y Natural de las Indias. Madrid, 1851.
- FERNANDEZ DE PIEDRAHITA, LUCAS. Historia General de las Conquistas del Nuevo Reino de Granada. Bogotá, 1881.

BIBLIOGRAPHY

- FIGUEROA, PADRE F. DE. *Relaciones de las Misiones de la Compañía de Jesus en el Pais de los Maynas*. Madrid, 1904.
- FISKE, JOHN. *The Discovery of America*. Boston, 1892.
- FITZGERALD, E. A. *The Highest Andes*. London, 1899.
- GARCIA, FRAY GREGORIO. *Origen de los Indios del Nuevo Mundo*. Valencia, 1607.
- GOMARA, FRANCIOCO, LOPEZ DE. *Historia General de las Indias*, Tom. XXII, Biblioteca de Autores Españoles. Madrid, 1877.
- HELPS, SIR ARTHUR. *The Spanish Conquest in America*. New York, 1900.
- HERNDON AND GIBBON. *Exploration of the Valley of the Amazon*. Washington, 1854.
- HERRERA, ANTONIO DE. *Historia General de los hechos de los Castellanos en las Islas y Tierra Firme del Mar Oceano*. Madrid, 1726.
- HUMBOLDT, ALEXANDER VON. *Essai Politique sur le Royaume de la Nouvelle Espagne*. Paris, 1811.
- . *Views of Nature*. Bohn edition.
- . *Vues de Cordilleres et Monumens, de Peuples Indigènes de l'Amérique*. Paris, 1810.
- HUMBOLDT AND BONPLAND. *Observations de Zoologie et d'Anatomie Comparée*. Paris, 1811.
- INWARDS, R. *The Temple of the Andes*. London, 1884.
- JUAN JORGE Y ULLAO, ANTONIO DE. *A Voyage to South America*. Dublin, 1753.
- . *Noticias Secretas de America*. London, 1826.
- KOCH-GRÜNBERG, THEODOR. *Zwei Jahre unter den Indianern*. Berlin, 1910.
- LARRABURE Y UNANUE, E. *Monografías Hispano-Americanas*. Lima, 1893.
- LAS CASAS, FR. BARTOLOME DE. *Apologetica Historia de las Indias*. Madrid, 1909.
- Lettres Édifiantes et Curieuses*, Tom. II. Paris, 1841.
- MARKHAM, SIR CLEMENTS, R. *The Incas of Peru*. New York, 1910.
- . *Cuzco and Lima*. London, 1856.
- . *A History of Peru*. Chicago, 1892.

BIBLIOGRAPHY

- MELENDEZ, PADRE JUAN. *Tesoros verdaderos de las Yndias.* Roma, 1681.
- Memorias de los Vireyes que han Gobernado el Peru durante el Tiempo del Colonaje Español. Lima, 1859.
- MENDIBURU, MANUEL DE. *Diccionario Historico-Biografico del Peru.* Lima, 1874-90.
- MEYENDORFF, LE BARON ET LA BARONNE DE. *L'Empire du Soleil.* Paris, 1909.
- MEYER, HANS. *In den Hoch-Anden von Ecuador, mit Bilder Atlas.* Berlin, 1907.
- MIDDENDORF, E. W. *Peru.* Berlin, 1893-95
- MOLINA CRISTOBAL DE. *Relacion de las Fabulas y Ritos de los Yngas*, tr. and pub. by the Hakluyt Society. London, 1873.
- MONTESINOS, D. FERNANDO DE. *Memorias Antiguas Historiales del Peru.* Madrid, 1882.
- . *Anales del Peru*, publicados por Victor M. Mortua. Madrid, 1906.
- MOZANS, H. J. *Up the Orinoco and down the Magdalena.* New York, 1910.
- NADAILLAC, MARQUIS DE. *Prehistoric America.* London, 1885.
- NERY, F. J. DE SANTA ANNA. *Le Pays des Amazones.* Paris, 1885.
- Noticias Autenticas del Famoso Rio Mara  n*, publicadas por primera vez por Marcos Jimenez de la Espada. Madrid, 1889.
- ONDEGARDO, POLO DE. *Narratives of the Rites and Laws of the Incas*, tran. and pub. by the Hakluyt Society. London, 1873.
- ORBIGNY, ALCIDE D'. *L'Homme Am  ricain.* Paris, 1839.
- OSCULATI GAETANO. *Esplorazione delle Regioni Equatoriali lungo il Napo ed il Fiume delle Amazzone.* Milano, 1850.
- PALMA, RICARDO. *Tradiciones.* Lima, 1883.
- PERALTA BARNUEVA. *Rocha y Benavides*, Pedro de. *Lima fundada y Conquista del Peru en la Coleccion de Documentos Literarios del Peru*, Colectados y Areglados por D. Manuel de Odriozola. Lima, 1863.
- PIZARRO, PEDRO. *Relacion del Descubrimiento y Conquista de los Reinos del Peru*, in *Documentos ineditos para la Historia de Espa  a.*

BIBLIOGRAPHY

- PÖPPIG, E. F. Reise in Chile, Peru und auf dem Amazonen Ströme warend der Jahre, 1827-32. Leipzig, 1836.
- PRESCOTT, W. H. The Conquest of Peru. New York, 1847.
- RAIMONDI, ANTONIO. El Peru. Lima, 1874.
- RAMOS GAVILAN, FRAY ALONZO. Historia de Copacabana y de su milagrosa Virgen, Compendiada por el P. F. Rafael Sans. La Paz, 1860.
- RECLUS, ELISÉE. Nuevelle Geographic Universelle. Paris, 1893.
- REISS AND STRÜBEL. Reisen in Sud-Amerika. Berlin, 1892-1902.
- . Das Todtenfeld von Ancon. Berlin, 1880-87.
- ROCHA, DIEGO ANDRES. Tratado Unico y Singular del Origen de los Indios. Madrid, 1891.
- RODRIGUEZ, MANUEL. Descubrimiento del Gran Rio Marañon y de las Amazonas. Madrid, 1684.
- RUIZ DE MONTOTOYA, PADRE ANTONIO. Conquista Espiritual. Madrid, 1639.
- Roman y Zamora, Fr. Geronimo. Republicas de Indias Idolatrias y gobierno del Mexico y Peru. Madrid, 1897.
- SALCAMAYHUA, JUAN DE SANTA CRUZ PACHACUTI-YAMQUI. An account of the Antiquities of Peru, trans. and pub. by the Hakluyt Society. London, 1873.
- SALINAS, FRAY DIEGO DE CORDOVA. Coronica de la religiosissima provincia de los Doze Apostolos del Peru de la Orden de N. P. S. Francisco de la regular observancia. Lima, 1651.
- SARMIENTO DE GAMBOA, PEDRO. History of the Incas, tran. and pub. by the Hakluyt Society. London, 1907.
- SIMON, FR. PEDRO. Noticias historiales de las Conquistas de Tierra Firme. Bogotá, 1892.
- SOLDAN, MATEO PAZ. Géographie du Perou. Paris, 1863.
- SOLÓRZANO, JUAN DE. Política Indiana. Madrid, 1776.
- SMITH, HERBERT H. Brazil, the Amazons and the Coast. New York, 1879.
- SPIX, J. B. AND MARTIUS, C. F. Travels in Brazil. London, 1824.
- SQUIER, E. GEORGE. Peru, Incidents of Travel and Exploration in the Land of the Incas. London, 1877.
- STEVENSON, W. R. A Historical and Descriptive Narrative of Twenty Years' Residence in South America. London, 1825.

BIBLIOGRAPHY

- STÜBEL, A. UND UHLE M. Die Ruinenstaette von Tiahuanaco im Hochland des Alten Peru. Leipzig, 1892.
- TERNAUX-COMPANS, H. Voyages Relations et Memoires Originaux pour servir a Histoire de la découverte de l'Amérique. Paris, 1837-1841.
- TEXEIRA, PEDRO. Viaje Aquas arriba del Rio de las Amazonas. Madrid, 1889.
- TSCHUDI, J. J. VON. Travels in Peru. New York, 1854.
 ————. Peruvian Antiquities. New York, 1855.
- UHLE, MAX. Pachacamac. Philadelphia, 1903.
- VASQUEZ, FRANCISCO. Relacion de Todo lo que Sucedió en la Jornada de Omagua y Dorado hecho por el Gobernador Pedro de Orsua. Madrid, 1881.
- VEGA, GARCILASO DE. Comentarios Reales de los Incas. Madrid, 1723.
 ————. Historia General del Peru. Madrid, 1722.
- VELASCO, JUAN DE. Historia del Reino de Quito. Quito, 1844.
- VILLAVICENCIO, M. Geografia de la Republica del Ecuador. New York, 1858.
- WAGNER, MORITZ. Naturwissenschaftliche Reisen in tropischen America. Stuttgart, 1870.
- WALLACE, ALFRED RUSSEL. Natural Selection and Tropical Nature. London, 1891.
- WHYMPER, EDWARD. Travels amongst the Great Andes of the Equator. New York, 1892.
- WIENER, CHARLES. Peru et Bolivie. Paris, 1880.
- WOLF, T. Geografia y Geologia del Ecuador. Leipzig, 1892.
- XERES, FRANCISCO DE. Verdadera Relacion de la Conquista del Peru y Provincia del Cuzco, Biblioteca de Autores Españoles. Madrid, 1906.
- ZARATE, AGUSTIN DE. Historia del Descubrimiento del Peru, Biblioteca de Autores Españoles. Madrid, 1906.

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